ICD10monitor

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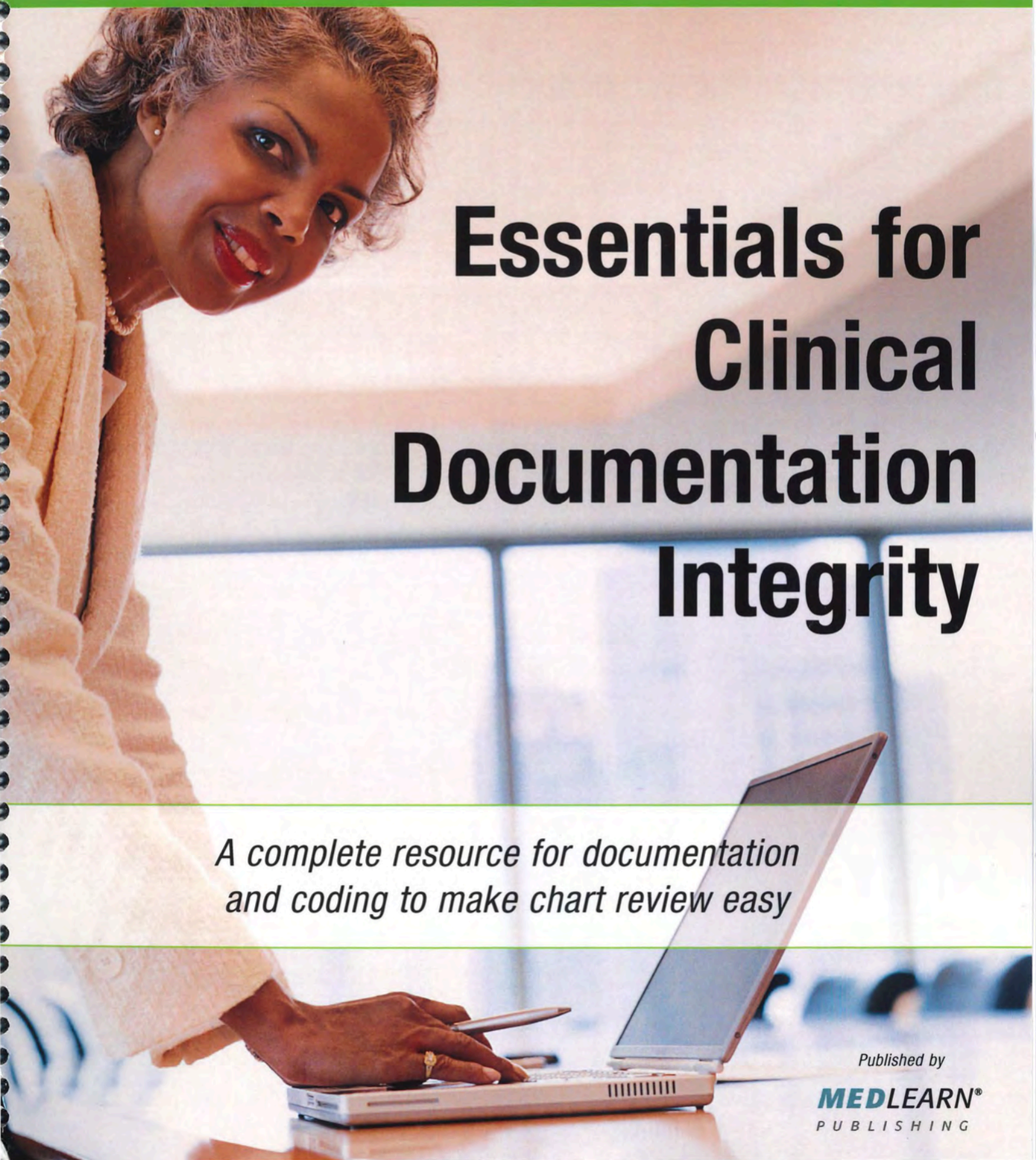

Essentials for Clinical Documentation Integrity

A complete resource for documentation and coding to make chart review easy

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FOUNDATIONS OF CLINICAL DOCUMENTATION INTEGRITY

When you were a registered nurse (RN) working night shift on the med-surg floor, you likely had no idea just how important your documentation was for your facility. In nursing school, we are taught that "if it isn't documented, it didn't happen." Although it's still important to provide the best patient care in the inpatient setting, the mantra for provider documentation has changed to "if it isn't documented, not only did it not happen, but we don't receive appropriate reimbursement and the severity scores of our hospital suffers."

If you are a coding professional, you have known for quite some time just how important hospital documentation is and may be getting introduced to **clinical documentation integrity (CDI).**

Clinical documentation is a provider's recording of any and all events related to a patient's healthcare stay (inpatient or outpatient). In the United States, professional coders translate this documentation into codes after the patient is discharged from the hospital. These codes "group" to a **Medicare severity diagnosis-related group (MS-DRG)** that has a certain **relative weight (RW)** attached to it. This process determines how the hospital is paid for the care provided.

As you can see from the table below, this logic makes some sense; a patient who presents for chest pain has a low RW, and the hospital is reimbursed at a low level. However, if a patient comes to the hospital and his myocardial infarction (MI) is well-documented, the hospital can expect a higher RW score and higher reimbursement. The same is true if that same patient ultimately has a coronary artery bypass graft (CABG).

Relative Weight	Principal Diagnosis	Hospital Payment*
0.7073	Chest pain (MS-DRG 313)	$4,244
0.7490	Acute myocardial infarction discharged alive without complication or comorbidity (CC) or and major complication or comorbid condition (MCC) (MS-DRG 282)	$4,494
1.6571	Acute myocardial infarction discharged alive with MCC condition (MS-DRG 280)	$9,943
3.9263	Coronary bypass (CABG) without cardiac catheterization without MCC condition (MS-DRG 236)	$23,558
26.4106	Heart Transplant or Implant of Heart Assist System with MCC (MS-DRG 001)	$158,464

** Established from a base reimbursement rate of $6,000—a concept that will be defined later in this chapter.*

Hospitals receive funding for the services they provide for Medicare and most Medicaid patients through the **inpatient prospective payment system (IPPS).** Currently, other (private) insurance companies may or may not reimburse with this same government system.

The International Classification of Diseases, Tenth Revision (ICD-10), is a medical classification system that provides codes to classify commonalities among patients. The World Health Organization (WHO) also captures and reports data based on ICD-10 codes. ICD-10 is designed to promote

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international comparability in the collection and processing of health data. The United States is one of six countries that uses ICD-10 for the purpose of *reimbursement.*

Acute-care hospitals use the **Uniform Hospital Discharge Data Set (UHDDS)** definitions to report codes and other inpatient data elements on the hospital billing claim in a consistent manner. Up to 25 medical diagnoses and up to 25 procedures affect the MS-DRG assignment.

WHAT IS CDI?

CDI is a team approach to improve documentation to assure the accuracy, clinical soundness, and final coding of a record after discharge. The goal is to correctly maximize MS-DRG assignment so that hospitals are suitably reimbursed for the level of care they provide. CDI seeks to assign an accurate severity of illness (SOI) and risk of mortality (ROM) score for each inpatient admission so that hospitals can report the level of care they provide. CDI also helps to prevent auditing denials in the future and the reporting of inaccurate or inappropriate hospital-acquired conditions (HACs).

How is this accomplished?

- Reviewing records daily to identify any documentation opportunities
- Communicating with providers via a **query or clarification question** process regarding any documentation issues
- Creating professional relationships with providers and educating them about documentation
- Establishing excellent relationships with the coding professionals at your hospital

---

The chief concept of CDI is the ability to understand the provider's intent.

For example, when a provider documents "CHF, third dose of IV Lasix, BNP 3000, get another CXR tomorrow," an RN "knows" that a congestive heart failure (CHF) exacerbation is being treated. But the provider must document both the exacerbation and whether that CHF is systolic, diastolic, or a combined systolic-diastolic. It is that specificity, ***and gleaning specificity from intent,*** *that makes CDI so unique and complex. More on CHF education later.*

THE IMPORTANT ROLE OF CODING

Prior to your role as a clinical documentation specialist (CDS), the role of the coding professional might have been unknown to you.

Coding is the translation of clinical language and procedures (documented by providers) into numeric or alpha-numeric codes. Coding condenses potentially massive amounts of clinical information into a finite set of codes. Coding professionals (or simply "coders") are bound by the *ICD-10-CM Official Guidelines for Coding and Reporting* and the American Hospital Association's (AHA) *Coding Clinic.*

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Providers often use language that is nonspecific when they are documenting, leaving a coder no choice but to assign poor codes or "unspecified" codes. One of the biggest roles of a CDI specialist is recognizing when diagnoses and procedures are missing from the documentation and asking the providers clarifying questions concurrently while the patient is still in house. CDI is known as "bridging the gap" between medical and coding language, and CDI specialists are translators. For example, if you know both the Spanish and English language, you can communicate with two people who only know a little of each.

One of the roles of a CDI specialist is understanding coding guidelines and being abreast of the annual changes that are made. Though the coding guidelines can appear to be overwhelming, CDI specialists are not expected to be as knowledgeable as a coder. (However, if you are already a coder, then the expectation is you have a high level of coding knowledge!) Your knowledge base lies in your clinical experience and experience as an RN or your experience as a coder deciphering medical records. If you understand the coding guidelines regarding principal diagnosis and secondary diagnosis coding, you are well on your way to becoming a terrific CDI specialist.

You can access the most recent coding guidelines (and a very large PDF) at *https://www.cms.gov/Medicare/Coding/ICD10/Downloads/2019-ICD10-Coding-Guidelines-.pdf.*

SYMPTOMS VS. DIAGNOSES

One of the main focuses of CDI, particularly when a new program is established, is clarifying and querying regarding symptoms vs. diagnoses. The table below provides several examples of how they differ. The symptoms on the left are non-specific and do not truly identify the level of a patient's sickness. The diagnoses on the right are much more specific and reflect the level of care the patient actually received.

Symptoms	Diagnoses
"Severe hypoxia, room air 70s, bipap applied"	Acute respiratory failure (ARF)
"Cachectic, on chemo, start TPN"	Protein-Calorie malnutrition
"Chest pain, elevated troponins, treat"	Myocardial infarction
"Obtunded, no response to stimulus, GCS 7"	Coma
"H&H 6.8/24.2 s/p surgery, give 2 units"	Acute blood loss anemia

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CASE STUDY

A 96-year-old female patient comes to the hospital with chest pain and mild ST elevation per her EKG. Troponins are elevated to 5.8, and she is treated with Nitro, Aspirin, morphine, and oxygen. However, because of her advanced age, both she and her daughter decline any further work-up except a new echo, and she is discharged on hospital day three. The DC summary reads as follows.

DISCHARGE DIAGNOSES: Chest pain elevated Troponin, history of CHF

DISCHARGE DISPOSITION: 96 y/o F w/multiple comorbidities who presented to the ER w/ CP. She received work up. Troponin up to 5, she improved s/p nitro & aspirin. DC on aspirin and continue other medications. This stay EF down to 30%, expected since her last EF in 2012 was about 45%. Continue daily home Lasix as well – no IV Lasix needed this stay.

Was the above patient just treated for "chest pain," or was she treated for a myocardial infarction? What about the congestive heart failure (CHF)? What SOI and ROM score and reimbursement does the hospital deserve? The table below shows the details.

Documentation	Diagnosis and MS-DRG	Relative Weight	Expected LOS	SOI & ROM	Hospital Payment
"Chest pain, CHF"	Chest pain (MS-DRG 313)	0.7073	1.7 days	2/2	$4,244
"MI, CHF"	Acute myocardial infarction DC alive without CC/MCC (MS-DRG 282)	0.7490	1.8 days	2/3	$4,494
"MI, Chronic Systolic CHF"	Acute myocardial infarction DC alive with CC (MS-DRG 281)	0.9796	2.6 days	2/3	$5,878

One of the skills you will master as you become a more knowledgeable CDS is the ability to identify diagnoses even though only symptoms are documented and to query the provider for clarification.

MDCs AND MS-DRGs

The Centers for Medicare & Medicaid Services (CMS) replaced the DRG payment system with the MS-DRG payment system in 2007. It allowed hospitals to receive higher reimbursement for taking care of patients who are deemed sicker. This system incorporated the use of comorbid conditions (CCs) and major comorbid conditions (MCCs) that could impact severity and payment, (More details about CCs and MCCs are provided below.). Not only did the MS-DRG payment system impact how hospitals got paid, it also impacted how hospitals were presented and compared on a national level. This in turn created motivation for physicians to improve their documentation.

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As of October 2018, there are 26 major diagnostic categories (MDCs) including a Pre-MDC, and 761 MS-DRGs. Multiple MS-DRG systems exist, including the following.

- MS-DRGs used by Medicare
- All-patient Refined DRGs (APR-DRGs) used by many Medicaid Programs
- All-patient DRGs (AP-DRGs) used by some other payers

Throughout this guide we will focus on the MS-DRG payment system.

Per the American Health Information Management Association (AHIMA), "The MS-DRG method assigns a numeric value to an acute care inpatient hospital episode of care, which serves as a relative weighting factor intended to represent the resource intensity of hospital care of the clinical group that is classified to that specific MS-DRG. As a reimbursement system the MS-DRG assignment determines the payment level the hospital will receive." (2010)

So all patients discharged with a cardiac diagnosis will end up in the **same** MDC, but will end up in **different** MS-DRGs based on the principal diagnosis, secondary diagnoses, and procedures that are final-coded. Several examples are provided in the table below.

Principal Dx (PDX)	Secondary Dx (SDX)	Procedure	Major Diagnostic Category (MDC)	Medicare-Severity Diagnosis-Related Group (MS-DRG)
Stroke	-	-	1 (Neuro)	066
Stroke	Hemiplegia	-	1 (Neuro)	065
Stroke	Acute respiratory failure	-	1 (Neuro)	064
Atrial fibrillation	-	-	5 (Circulatory)	310
Atrial fibrillation	Chronic respiratory failure	-	5 (Cardiac) above	309
Atrial fibrillation	Acute systolic CHF	-	5 (Cardiac) above	308
Atrial fibrillation	-	Pacemaker	5 (Cardiac) above	244

If a patient does not have a procedure performed while an inpatient, a **medical MS-DRG** will be assigned. If a procedure is performed, a **surgical MS-DRG** may, but not always, be coded.

The UHDDS defines what a "significant" procedure is and CMS decides whether or not it will change the MS-DRG and how much reimbursement a facility will receive for the procedure. For example, a hemicolectomy will always change the MS-DRG because it is a major procedure that has a large surgical and anesthetic risk. A diagnostic upper endoscopy (EGD) or a cardiac catherization will not change the MS-DRG to a surgical MS-DRG. Most of these are logical. You will learn these as you continue to perform your CDI work.

The three different types of MS-DRGs are listed below.

- **Triplet:** This indicates a MS-DRG with three levels. It either has no CC/MCC, a CC, or an MCC. For example:

  – Chronic obstructive pulmonary disease (COPD) without CC or MCC (RW 0.7241)–MS-DRG 192

  – COPD with CC (RW 0.9139)–MS-DRG 191

  – COPD with MCC (RW 1.1907)–MS-DRG 190

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- **Doublet:** This indicates that this series of MS-DRGs has two levels. It is usually either without an MCC or with an MCC:
  - Pulmonary embolism without MCC (0.8990)–MS-DRG 176
  - Pulmonary embolism with MCC (1.4649)–MS-DRG 175
  - Also MS-DRG without CC/MCC
  - MS-DRG with CC/MCC (for example, MS-DRGs 746 and 747).
- **Stand Alone:** This indicates that a MS-DRG does not change with a CC or a MCC. This is indicated by its title. For example, the title of MS-DRG 189 is Pulmonary Edema & Respiratory Failure. Notice that the title does not include the wording "with or without CC/MCC."

Each MS-DRG is assigned a **geometric mean length of stay (GMLOS)** and an **arithmetic mean length of stay (AMLOS)**. Often hospitals will adopt one that they frequently refer to and simply refer to it as **length of stay (LOS)**. CMS determines an appropriate LOS for each MS-DRG based on data submitted yearly from across the country; they look at how long "on average" it takes to take care of a patient with X diagnosis. This determines the AMLOS for each MS-DRG. GMLOS is slightly more complicated. Simply put it is calculated to prevent outliers from affecting the average LOS.

When a CDI specialist is investigating a patient's record, it is important to monitor the patient's LOS and compare it to the current MS-DRG assigned. For example, if a patient is on the tenth hospital day and falls into a MS-DRG that has an AMLOS of 3.5 days, you would consider whether there is something missing in the documentation.

THE GROUPER

This all may seem a bit confusing, which is completely normal since these are difficult new concepts. You may be thinking, "How will I know what this is all going to 'group' to?" Don't worry! No one expects you to be a mathematician in order to figure this out.

Software created in the 1980s allows us to enter all of our coded data (using actual codes or diagnostic language), and based on that data generates or "groups" those codes to a MS-DRG. Your instructor will show you how this works.

PRINCIPAL AND SECONDARY DIAGNOSES

The *ICD-10-CM Official Guidelines for Coding and Reporting* state that the UHDDS defines PDX as follows: "That condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care."

There are many rules and guidelines that help determine principal diagnoses, and these will be discussed throughout this training. The most important thing to remember is this: To be considered for PDX, a diagnosis **must** be present on admission (POA).

Secondary diagnoses are defined as "all conditions that coexist at the time of admission, that develop subsequently, or that affect the treatment received and/or the length of stay." To be considered as a secondary diagnosis, the diagnosis must meet one of the five criteria listed below.

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- Clinical evaluation
- Therapeutic treatment
- Diagnostic procedures
- Increased nursing care/monitoring
- Extended length of stay.

Again, we will discuss this in much more detail throughout your training.

CCs AND MCCs

CCs and MCCs play an integral part in MS-DRG assignment. They are always secondary diagnoses that can often dramatically change the MS-DRG. CCs are often chronic conditions and MCCs are often acute, but this is not always the case. Below are examples of frequent CCs and MCCs. Notice the escalation in severity.

Complication/Comorbid Conditions (CCs)	Major Complication/Comorbid Conditions (MCCs)
Chronic systolic, diastolic, or combined CHF or unspecified	Acute or acute-on-chronic systolic, diastolic or combined CHF
Acute renal failure	Acute tubular necrosis
Hallucinations	Encephalopathy, coma
Transischemial attack (TIA)	Stroke
Chronic respiratory failure	Acute respiratory failure

What does this mean for MS-DRG assignment? It means that, depending on the patient's clinical picture and associated documentation, we can end up in a variety of MS-DRGs as shown below.

Diagnoses	MS-DRG
COPD exacerbation No CCs or MCCs documented	MS-DRG 192 (COPD without CC or MCC) RW: 0.7241 GMLOS: 2.5 days
COPD exacerbation with chronic respiratory failure (CC)	MS-DRG 191 (COPD with a CC) RW: 0.9139 GMLOS: 3.1 days
COPD exacerbation with acute-on-chronic respiratory failure (MCC)	MS-DRG 190 (COPD with an MCC) RW: 1.1907 GMLOS: 3.8 days

Look at how the addition of a CC or MCC increases the RW and LOS. Logically this makes sense: The sicker the patient, the more intense services they require, the longer their stay, the more the hospital deserves to be paid. No one expects you as a new CDS to just "know" all of the CCs and MCCs. Many are provided here in your CDI handbook, and you will also learn many on the job.

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DEFINING SOI AND ROM

- **Severity of Illness (SOI):** The extent of physiologic decompensation or organ system loss or function. Simply put: How sick is your patient?
- **Risk of Mortality:** A patient's likelihood of dying (AHIMA, 2004)

Each score is ranked from a 1 to a 4, which are defined as follows:

- 1: Minor
- 2: Moderate
- 3: Major
- 4: Extreme

The above scale indicates the sickness level of the patient. Sicker patients are more likely to die during admission (a determination based exclusively on documented diagnoses). Some procedures increase the SOI/ROM score.

For example: A young patient coming in with appendicitis to have an appendectomy will likely have an SOI/ROM score of a 1/1. An elderly patient with end-stage renal disease (ESRD), CHF, and diabetes mellitus (DM) who presents with sepsis and ARF will likely have an SOI/ROM score of a 4/4. So a patient with a score of 1/1 or 2/2 is not very sick and not likely to die during this stay. A patient with an SOI/ROM score of a 3/3 or 4/4 is very sick and could likely die during this visit.

Every inpatient discharge is assigned a MS-DRG based on documentation and codes and also is assigned an SOI/ROM score that should be an accurate portrayal of the patient's illness during the current hospital stay. These scores are also used to determine expected vs. observed mortality scoring, which is crucial to how a hospital presents itself to the community. Every hospital wants it to look like they take good care of extremely sick patients who do not die on their watch. If these scores are poor, this may simply be a poor documentation issue and not an issue of receiving bad care.

Let's use the same example above to better describe this concept:

Diagnoses	MS-DRG	SOI/ROM Score
COPD exacerbation No CCs or MCCs documented	MS-DRG 192 (COPD without CC or MCC) RW: 0.7241 GMLOS: 2.5 days	1/1
COPD exacerbation with CRF (CC)	MS-DRG 191 (COPD with a CC) RW: 0.9139 GMLOS: 3.1 days	2/1
COPD exacerbation with acute-on CRF (MCC)	MS-DRG 190 (COPD with an MCC) RW: 1.1907 GMLOS: 3.8 days	3/2

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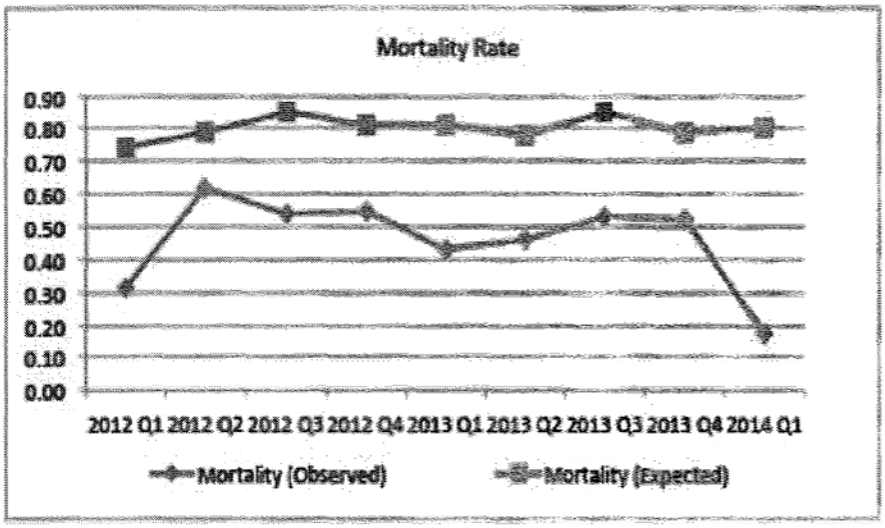
Remember: Every MS-DRG has a RW assigned to it. The sicker the patient is, the higher the relative weight should be. Also surgical MS-DRGs naturally have a higher relative weight than medical MS-DRGs to account for operating room time.

A fabricated mortality scoring graph is presented below. Look how much lower this hospital's observed mortality is than its expected mortality. This is what you want your hospital graphs to look like, and this is all based on documentation!



CASE MIX INDEX (CMI) AND BASE REIMBURSEMENT RATE

The definition of CMI is the average of relative weights over a set amount of time (often monthly or quarterly). CDI staff who ensure that all documentation is complete, specific, and reflective of each patient's SOI/ROM can ensure that a hospital's CMI is as accurate as possible. This is a term you will likely hear the chief financial officer (CFO) of your hospital discuss frequently, as a higher CMI correlates to higher payments for care. However, there are many factors that contribute to CMI.

For example, if you have a patient on your unit who ends up with a tracheostomy with mechanical ventilation, this is an extremely highly weighted MS-DRG, with a relative weight of 17.0+. What if in one month, as opposed to your hospital's usual number of five tracheostomy patients, you had 10 patients? This would astronomically increase your CMI, and this has nothing to do with CDI. It is simply the way the cards fall that month. Often this is a difficult concept to explain to leadership, who are often baffled at a CMI that waxes and wanes every month.

What might make our CMI higher than usual?	• Unusually high number of tracheostomies • New surgeon starts performing cases • Transplant unit performs seven transplants this month instead of its average of four
What might make our CMI lower than usual?	• Hospital loses its only neurosurgeon 2/2 to contract issues • 1 of 2 cardiac surgeons goes on two-week vacation • Cath lab is closed for 1.5 weeks 2/2 to renovations

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CMS uses the following factors to decide your hospital's adjusted **base reimbursement rate:**

- Indirect costs for graduate medical education (Hospital residency programs help to increase the base rate.)
- Disproportionate number or share of low-income patients
- Wage index, geographical location
- Adjustments for new technology?
- Add-on payment

A common base rate used throughout this guidebook is $6,000.

The formula used to calculate how much your hospital is going to get paid for an episode of care is as follows:

Adjusted Base Reimbursement Rate x Relative Weight = REIMBURSEMENT Reimbursement Examples		
Adjusted Base Reimbursement Rate	**Relative Weight of MS-DRG**	**Expected Reimbursement**
$5,000	MS-DRG 004 (RW 11.4192): Tracheostomy with MV 96+ hours	$68,515
$6,000	MS-DRG 470 (RW 1.9898): Major joint replacement w/o MCC	$11,939
$6,250	MS-DRG 637 (RW 1.3813): Diabetes with MCC	$8,288
$8,500	MS-DRG 312 (RW 0.8015): Syncope and collapse	$4,809

WHOSE DOCUMENTATION COUNTS?

For the most part, the documentation contained in the healthcare records needs to come from a healthcare provider: M.D., D.O., nurse practitioner (NP), physician assistant (PA), or residents. (Note that state laws vary regarding an attending physician signing the notes of NPs and PAs. Be sure to follow the laws of your state.)

As indicated below, there are several types of providers who may document in a patient's record, and there are guidelines for these providers when it comes to documentation.

- **Attending Providers:** CMS states that the primary physician for the patient during his or her stay is the physician who admits the patient to the facility. This can be tricky to determine due to several factors, such as intensivist vs. surgeon, late-entry discharge summaries, etc.

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- **Consulting Providers:** Documentation can be used to assign codes *so long as it does not conflict with the documentation of the attending provider.*
- **Residents:** Documentation must be cosigned by the attending provider or by the physician who oversees the resident program (often the same person). Resident documentation doesn't "count" for or against the resident; all of that data is combined and assigned to the attending physician.
- **Registered Nurses:** The documentation of RNs does count sometimes! And it often tells the "real" story of the patient. RN documentation counts towards:
  - Staging pressure ulcers (PU) by the wound team RN (so long as a provider documents the ulcer and POA status)
  - Body mass index (BMI) can be documented by the RN and then coded as long as the provider has documented a corresponding diagnosis (obesity).
- **Registered Dieticians (RDs):** Make excellent assessments of patient's nutritional status using multiple criteria. Though their documentation can be helpful, it cannot be used to assign codes (except BMI scenario). For example, if an RD documents that a patient has "mild protein-calorie malnutrition," this must be supported by a provider in his or her documentation (for example, progress note, consult, DC summary).

Often CDI specialists will find conflicting information throughout medical records. For instance, they will see night shift RN documentation of "patient combative again this evening, restraints applied and sitter at bedside. A&O x 1. Yelling about bugs on the floor when there are no bugs." Then they will see MD documentation in the next progress note of, "A&O x 3, no confusion, pleasant."

It takes experience and skill to determine what actually happened to the patient vs. what is copy and pasted. Often this requires querying the physician to determine an accurate diagnosis for a patient.

DAILY DOCUMENTATION

The importance of accurate documentation that is continued throughout the patient's stay cannot be stressed enough. *Inaccurate* documentation that continues through the patient's stay can be detrimental to the patient's health and plan of care. Lack of a record (i.e., history and physical [H&P], operative notes, DC summary) can negatively affect patient care as well.

Another skill you will master is the ability to know when to query when a diagnosis is only in the record once. Coders are extremely skilled in identifying diagnoses and knowing what to code; however, if they only see a diagnosis in the record once (and often times, only in the problem list), they may be very weary to code it. Best practice is to get all diagnoses in the record and problem list on a daily basis and to identify a plan of care and whether or not a diagnosis has resolved or is still being treated.

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DIAGNOSIS GUIDELINES

PRINCIPAL DIAGNOSIS GUIDELINES

"That condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care."

GETTING IT RIGHT

The importance of selecting the correct principal diagnosis for a patient's visit cannot be underestimated. It seems as though it would be easy enough. In theory you should simply be able to ask, "What did the patient come to the hospital for?" This can be a difficult task for several reasons.

Patients today are sicker than ever, often presenting with multiple disease processes for which they are equally treated. Documentation may not be clear or it may be rich with *symptoms* attempting to explain a patient's plan of care. Or the patient may end up having surgery for something unrelated to their chief complaint upon admission.

Don't worry! Choosing the best principal diagnosis for your patient gets easier with time. The *Official Guidelines for Coding and Reporting* also have rules that both CDI staff and coding professionals are bound by when assigning principal diagnosis. These are listed below with examples.

1. TWO OR MORE DIAGNOSES THAT EQUALLY MEET THE DEFINITION FOR PRINCIPAL DIAGNOSIS

Any one of the diagnoses may be sequenced first. In the instance when two or more diagnoses equally meet the criteria for principal diagnosis as determined by the circumstances of admission, diagnostic workup and/or therapy provided, and the Alphabetic Index, Tabular List, or another coding guidelines do not provide sequencing direction.

Example: Patient is admitted with systolic CHF exacerbation and aspiration pneumonia. Both are equally worked up (IV antibiotics, speech eval, NPO, IV Lasix, new Echo, etc.). In this case, either may be assigned as PDX. A coder will likely choose the aspiration pneumonia as PDX since, in this case, it will have a higher RW.

Per *The 2016 CDI Pocket Guide,* "When one condition is obviously predominant, the coder must select it as principal diagnosis unless coding guidance states otherwise."

2. TWO OR MORE INTERRELATED CONDITIONS, EACH POTENTIALLY MEETING THE DEFINITION FOR PRINCIPAL DIAGNOSIS

When there are two or more interrelated conditions (such as diseases in the same ICD-10-CM chapter or manifestations characteristically associated with a certain disease) potentially meeting the definition of principal diagnosis, **either condition may be sequenced first,** unless the circumstances of the admission, the therapy provided, the Tabular List, or the Alphabetic Index indicate otherwise.

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Example: A patient presents with both a COPD exacerbation and pulmonary embolus. Both are treated equally and both are in the same chapter (Respiratory, MDC 4). There are no directions in the Tabular List or Alphabetic Index that indicate what must be the PDX. In this case, we may choose either; COPD as principal diagnosis with PE as a secondary has a higher relative weight, so in this case we may sequence it as such.

3. UNCERTAIN DIAGNOSIS

If the diagnosis documented at the time of discharge is qualified as "probable," "suspected," "likely," "questionable," "possible," "still to be ruled out," or other similar terms indicating uncertainty, **code the condition as if it existed or was established.** The bases for these guidelines are the diagnostic workup, arrangements for further workup or observation, and initial therapeutic approach that correspond most closely with the established diagnosis.

Note: This guideline is applicable only to inpatient admissions to short-term, acute, long-term care and psychiatric hospitals.

Example: Patient's discharge summary reads, "Purulent cough/sputum on admission with dysphagia, suspected aspiration pneumonia." Aspiration pneumonia will be your principal diagnosis.

4. CODES FOR SYMPTOMS, SIGNS, AND ILL-DEFINED CONDITIONS

Codes for symptoms, signs, and ill-defined conditions from Chapter 18 of the *Official Guidelines for Coding and Reporting* are not to be used as principal diagnosis **when a related definitive diagnosis has been established.** (Do not assign a separate code for signs and symptoms [S&S] that are routinely associated with a disease process [per general coding guideline]).

Example: A patient presents with "chest pain" but on the second hospital day it is determined this was caused by rapid atrial fibrillation. The documentation reads, "Chest pain on admit likely due to Afib, rates in the 160s." Atrial fibrillation would be the patient's principal diagnosis.

5. ORIGINAL TREATMENT PLAN NOT CARRIED OUT

Sequence as the principal diagnosis the condition, which after study occasioned the admission to the hospital, even though treatment may not have been carried out due to unforeseen circumstances.

Example: A patient with osteoarthritis of the knee is admitted for a- total knee replacement. Prior to surgery the patient goes into rapid Afib, and the surgery is cancelled. Pacemaker placed on hospital day two. Patient to return for joint replacement procedure at a future date. The principal diagnosis will still be the osteoarthritis.

6. COMPLICATIONS OF SURGERY AND OTHER MEDICAL CARE

When the admission is for treatment of a complication resulting from surgery or other medical care, the complication code is sequenced as the principal diagnosis. If the complication is classified to the T80–T88 series and the code lacks the necessary specificity in describing the complication, an additional code for the specific complication should be assigned.

Example: Patient had a hip replacement done two weeks ago. Presents to the hospital today with a red, infected surgical site and physician documents "infection 2/2 to surgery, will work up and culture." Principal diagnosis will be a code describing the postoperative infection, which could be due to joint prosthesis.

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7. ADMISSION FROM OBSERVATION UNITS

Admission Following Medical Observation: When a patient is admitted to an observation unit for a medical condition, which either worsens or does not improve, and is subsequently admitted as an inpatient of the same hospital for this same medical condition, the principal diagnosis would be the medical condition that led to the hospital admission.

Admission Following Post-Operative Observation: When a patient is admitted to an observation unit to monitor a condition (or complication) that develops following outpatient surgery, and then is subsequently admitted as an inpatient of the same hospital, hospitals should apply the UHDDS definition of principal diagnosis as "that condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care."

8. ADMISSION FROM OUTPATIENT SURGERY

When a patient receives surgery in the hospital's outpatient surgery department and is subsequently admitted for continuing inpatient care at the same hospital, the following guidelines should be followed in selecting the principal diagnosis for the inpatient admission.

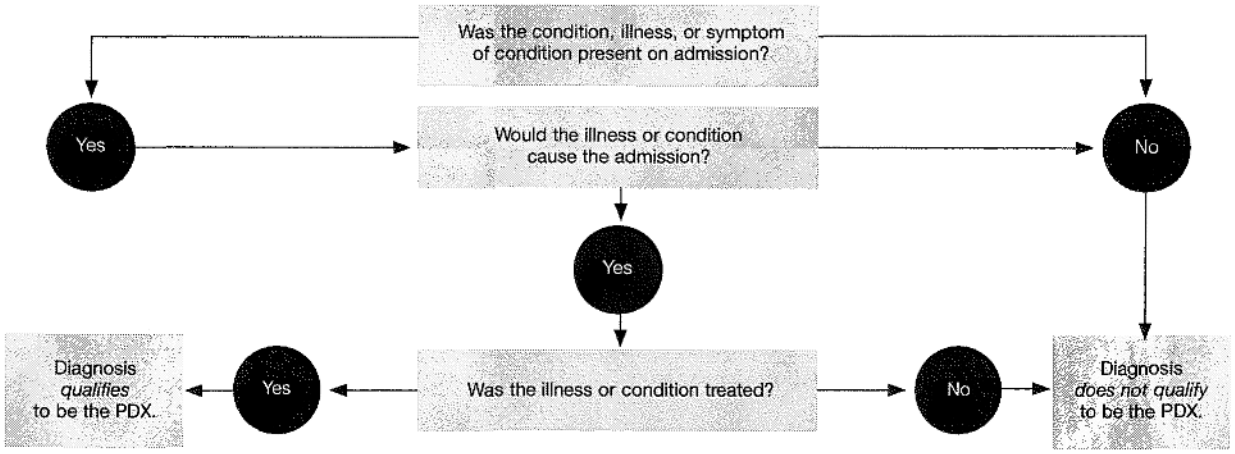
- If the reason for the inpatient admission is a complication, assign the complication as the principal diagnosis.
- If no complication, or other condition, is documented as the reason for the inpatient admission, assign the reason for the outpatient surgery as the principal diagnosis.
- If the reason for the inpatient admission is another condition unrelated to the surgery, assign the unrelated condition as the principal diagnosis.

9. TWO OR MORE COMPARATIVE OR CONTRASTING CONDITIONS

In those rare instances when two or more contrasting or comparative diagnoses are documented as "either/or" (or similar terminology), they are coded as if the diagnoses were confirmed and the diagnoses are sequenced according to the circumstances of the admission. If no further determination can be made as to which diagnosis should be principal, either diagnosis may be sequenced first.

Example: Either acute cholecystitis or acute pancreatitis may be sequenced first.

BUILDING BLOCKS OF CHOOSING THE PRINCIPAL DIAGNOSIS


Was the condition, illness, or symptom of condition present on admission?
Yes
Would the illness or condition cause the admission?
No
Yes
Diagnosis *qualifies* to be the PDX.
Yes
Was the illness or condition treated?
No
Diagnosis *does not qualify* to be the PDX.

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SECONDARY DIAGNOSES GUIDELINES

"All conditions that coexist at the time of admission, that develop subsequently, or that affect the treatment received and/or the length of stay. Diagnoses that relate to an earlier episode which have no bearing on the current hospital stay are to be excluded."

For reporting purposes the definition for "other diagnoses" is interpreted as additional conditions that affect patient care in terms of requiring one of the following:

- Clinical evaluation
- Therapeutic treatment
- Diagnostic procedures
- Extended length of hospital stay
- Increased nursing care and/or monitoring.

If the provider has included a diagnosis in the final diagnostic statement, such as the discharge summary or the face sheet, it should ordinarily be coded. Some providers include in the diagnostic statement resolved conditions or diagnoses and status-post procedures from previous admission that have no bearing on the current stay. Such conditions are not to be reported and are coded only if required by hospital policy.

Abnormal findings (laboratory, x-ray, pathologic, and other diagnostic results) are not coded and reported unless the provider indicates their clinical significance. If the findings are outside the normal range and the attending provider has ordered other tests to evaluate the condition or prescribed treatment, it is appropriate to ask the provider via a query or question whether the abnormal finding should be added.

- For example: You see that a patient's sodium level is 119, but there is no mention of "hyponatremia" in the documentation. A coder may not code hyponatremia based on a finding only. The provider must document "hyponatremia."
- Another illustration of this occurs in hospitals that do not use electronic medical record (EMR) documentation systems (or only use them sparingly). Like above, you see a sodium level of 119 and see documentation of " sodium, start NaCl 1L, continue to monitor." **A coder cannot assign the code hyponatremia from this.**

If the diagnosis documented at the time of discharge is qualified as "probable," "suspected," "likely," "questionable," "possible," "still to be ruled out" or other similar terms indicating uncertainty, code the condition as if it existed or was established. The bases for these guidelines are the diagnostic workup, arrangements for further workup or observation, and initial therapeutic approach that correspond most closely with the established diagnosis. Note: This guideline is applicable only to inpatient admissions to short-term, acute, long-term care and psychiatric hospitals.

The above information was obtained from the Official Guidelines for Coding and Reporting 2019, which may be found at https://www.cms.gov/Medicare/Coding/ICD10/Downloads/2019-ICD10-Coding-Guidelines-.pdf.

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ICD-10 GUIDELINES

ICD-9 AND THE TRANSITION TO ICD-10

As previously mentioned, the ICD is a medical classification system that provides codes to group commonalities among patients. ICD-10 is designed to promote international comparability in the collection and processing of health data.

The Forty-third World Health Assembly of the World Health Organization (WHO) endorsed the ICD-10 in May 1990, and its member states began using it in 1994. WHO captures and reports data based on ICD-10 codes. The United States is the last industrialized country to adopt ICD-10 and the only country that uses ICD codes for the purpose of reimbursement.

There are two parts to the ICD classifications:

- Clinical modification (CM), which indicates a medical diagnosis
- Procedure coding system (PCS), which indicates a procedure.

On October 1, 2015, ICD-10-CM/PCS replaced the ICD-9-CM system. The code set for the two coding systems could not be more different. And it is important to realize what a dramatic change has occurred in the coding world. Listed below are the basic yet dramatic differences between ICD-9-CM and ICD-10-CM/PCS.

ICD-9-CM	ICD-10-CM
Number of characters: 3–5	**Number of characters:** 3–7
Number of codes: 14,025	**Number of codes:** 71,932
Code structure: First character alpha or numeric; second through fifth characters numeric	**Code structure:** First character alpha; second character numeric; third through seventh character alpha or numeric
ICD-9 Procedure Codes	**ICD-10 Procedure Codes**
Number of characters: 3–4	**Number of characters:** 7 required
Number of codes: 3,824	**Number of codes:** 78,881
Code structure: Numeric only, generic terminology	**Code structure:** Alpha and numeric; detailed terminology for body system, body parts, laterality, methodology, approach, devices

In this training guide, we will focus exclusively on ICD-10 codes.

Did you Know – In ICD-9-CM there is no designation between "right" and "left?"

For instance, the code for a left total knee replacement is the same as a right total knee replacement —81.54. This is just a small example of the need for ICD-10!

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IDENTIFYING THE DIFFERENCES

When it comes to CDI, ICD-10 will provide new changes and challenges. However, the overarching CDI concepts are not changing. We still need to get documentation as specific as possible. We are still looking for accurate principal and secondary diagnosis assignment. The case study below provides a view of the differences in codes and MS-DRG assignment in both ICD-9 and ICD-10.

CASE STUDY

Patient's DC summary reads that he presented with pneumonia, acute respiratory failure, acute renal failure, and hypertension (HTN).

ICD-9	ICD-10
PDX: • Pneumonia, organism unspecified (486)	PDX: • Other pneumonia, unspecified organism (J18.8)
SDX: • Acute respiratory failure (518.81) • Acute renal failure (584.9) • HTN (401.9) No procedures.	SDX: • Acute respiratory failure, unspecified whether with hypoxia or hypercapnia (J96.00) • Acute renal failure (N17.9) • HTN (I10) No procedures.
MS-DRG: 193 Relative Weight: 1.3167 GMLOS: 4.2 days SOI: 3 ROM: 4 Reimbursement*: $7,900	MS-DRG: 193 Relative Weight: 1.3167 GMLOS: 4.2 days SOI: 3 ROM: 4 Reimbursement*: $7,900

There are clearly changes with ICD-10. However, you will still be asking similar questions—just more specific when it comes to ICD-10.

The biggest challenge is with procedural coding. Providers (particularly surgeons) often leave a coder unable to assign a code, which inhibits the billing cycle. We will discuss some of these in the upcoming MDC education. However, this is yet another example of why you need to have great relationships with your coding team. They can reach out to you and let you know documentation in the operative notes that needs further specificity while the patient is still an inpatient, and you can query concurrently and clarify any documentation.

**Note: These are FY 2018 relative weights and payment rates.*

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UNDERSTANDING CODING AND YOUR CODING RESOURCES

As previously mentioned, many of those reading this may have never heard of "coding," and others may be well-versed in it. To help new CDI specialists gain better understanding of coding, we provide some basic definitions of coding concepts and explain coding resources throughout this manual.

As previously mentioned, coders translate clinical documentation into alpha-numeric codes that result in a MS-DRG that establishes severity scoring and payment for a hospital. How do they do this? They start with the "rules" that are included in the ICD-10-CM and ICD-10-PCS coding manuals. These guidelines are also included in an electronic tool that coding professionals and CDI specialists use known as grouper software, which is set up in a logic approach or can be formatted similar to a code book. Both are easy to use.

The guidelines set forth in these manuals are the best source for any questions when it comes to coding. While you are using your Grouper software, when in doubt, refer to these manuals and/or coding clinics and they will guide you down the right path. The guidelines can be found at *https://www.cms.gov/Medicare/Coding/ICD10/Downloads/2019-ICD10-Coding-Guidelines-.pdf.*

While using your coding manual, you will first reference the Alphabetic Index, which lists all diagnoses and is organized by the following parts:

- Index of Diseases and Injury
- Table of Drugs and Chemicals
- Index of External Causes of Injury
- Table of Neoplasms

This will then direct you to the Tabular List, which is a chronological list of codes divided into chapters based on body system or condition. The ICD-10 Tabular List contains categories, subcategories, and codes. Characters may be either a letter or number, but all are at least three characters and all start with a letter.

BUILDING ICD-10 CODES

ICD-10 CODING CONVENTIONS: THE BASICS

Let's review some definitions to help in using your ICD-10 coding books.

- **Excludes1** means "not coded here." It indicates that the code excluded should never be used at the same time as the code above the Excludes1 note. This means that if you are coding "varicose veins of lower extremities," you will not assign O22.0- or O87.4 here.

  An Excludes1 note indicates mutually exclusive codes, which means that two conditions cannot be reported together. However, in October 2015, the Centers for Disease Control (CDC) and Prevention issued an update regarding Exclude1, stating that in some instances this can be coded. This update has been included in the *2019 ICD-10-CM Official Guidelines for Coding and Reporting* (I.A. 12.a).

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- **Excludes2** means "not included here." A patient may have both conditions at the same time, and both conditions may be coded.
- **NEC** (not elsewhere classifiable), essentially, means, "other, specified." When a specific code is not available for a condition, it directs the coder to use this term.
- **NOS** (not otherwise specified) means, essentially, "unspecified."
- **Placeholder characters:** ICD-10-CM uses placeholder character "X" to allow for future expansion (for example: T36.0X1A [poisoning by penicillin, accidental, initial encounter]).
- **Seventh Characters:** Certain ICD-10-CM categories have applicable seventh characters, which are required for all codes within the category or as the notes in the Tabular List instruct. This character must always be seventh in the data field. If a code that requires a seventh character is not six characters, a placeholder X must be used to fill in the empty characters.
- **Sequela (late effects)** is the residual effect (condition produced) after the acute phase of an illness or injury has terminated. There is no time limit on when a sequela code can be used. The residual may be apparent early, such as in cerebral infarction, or it may occur months or years later, such as that due to a previous injury. Examples of sequela include: scar formation resulting from a burn, deviated septum due to a nasal fracture, and infertility due to tubal occlusion from old tuberculosis. Coding of sequela generally requires two codes sequenced in the following order: the condition or nature of the sequela then the sequela code. An exception to the above guidelines are those instances where the code for the sequela is followed by a manifestation code identified in the Tabular List and title, or the sequela code has been expanded (at the fourth, fifth or sixth character levels) to include the manifestation(s). The code for the acute phase of an illness or injury that led to the sequela is never used with a code for the late effect.

If you have a basic understanding of these terms you are on the road to success for coding and ICD-10.

ICD-10-CM OFFICIAL GUIDELINES FOR CODING AND REPORTING

Remember: "CM" stands for clinical modifications and refers to medical codes.

The ICD-10-CM Tabular List contains characters for categories, subcategories and codes, which may be either a letter or a number. All categories are three characters. A three-character category that has no further subdivision is equivalent to a code. Subcategories are either four or five characters. Codes may be three-to-seven characters. That is, each level of subdivision after a category is a subcategory. The final level of subdivision is a code. A code that has an applicable seventh character is considered invalid without it.

The ICD-10-CM utilizes a placeholder character "X" at certain codes to allow for future expansion.

[ ] **Brackets** are used in the Tabular List to enclose synonyms, alternative wording or explanatory phrases. In the Alphabetic Index, they are used to identify manifestation codes.

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( ) **Parentheses** are used in both the Alphabetic Index and Tabular List to enclose supplementary words that may be present or absent in the statement of a disease or procedure without affecting the code number to which it is assigned. The terms within the parentheses are referred to as nonessential modifiers.

Excludes1: A type 1 Excludes note is a pure excludes note. It means "NOT CODED HERE!" This note indicates that the code excluded should never be used at the same time as the code above the Excludes1 note. It is used when two conditions cannot occur together, such as a congenital form versus an acquired form of the same condition.

Excludes2: A type 2 Excludes note represents "not included here," indicating that the condition excluded is not part of the condition represented by the code, but a patient may have both conditions at the same time. When an Excludes2 note appears under a code, it is acceptable to use both the code and the excluded code together, when appropriate.

To select a code in the classification that corresponds to a diagnosis or reason for visit documented in a medical record, first locate the term in the Alphabetic Index, and then verify the code in the Tabular List. Read and be guided by instructional notations that appear in both the Alphabetic Index and the Tabular List. It is essential to use both the Alphabetic Index and Tabular List when locating and assigning a code. The Alphabetic Index does not always provide the full code. Selection of the full code, including laterality and any applicable seventh character, can only be done in the Tabular List. A dash (-) at the end of an Alphabetic Index entry indicates that additional characters are required. Even if a dash is not included at the Alphabetic Index entry, it is necessary to refer to the Tabular List to verify that no seventh character is required.

EXAMPLES OF MEDICAL CODES IN ICD-10-CM

The following are examples of diagnoses coded in ICD-10-CM.

T82.311A	Breakdown (mechanical) of carotid arterial graft (bypass), initial encounter
L89.133	Pressure ulcer of right lower back, stage 3
J18.9 –	Pneumonia, unspecified organism
I10 –	Essential (primary) hypertension
G93.41	Metabolic encephalopathy

For a better understanding of the coding system, take time now to review your code books.

ICD-10-PCS OFFICIAL GUIDELINES FOR CODING AND REPORTING

ICD-10-PCS codes are composed of **seven** characters. Each character is an axis of classification that specifies information about the procedure performed. Within a defined code range, a character specifies the same type of information in that axis of classification. The ICD-10-PCS code structure looks like this:

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CHARACTERS

1—Section	2—Body System	3—Root Operation	4—Body Part	5—Approach	6—Device	7—Qualifier

SECTION

Procedures are divided into sections that identify the general type of procedure (for example, medical and surgical, obstetrics, imaging). The first character of the procedure code always specifies the section. The Medical and Surgical section constitutes the vast majority of procedures reported in an inpatient setting and is divided into the following subsections.

0 Medical and Surgical

1 Obstetrics

2 Placement

3 Administration

4 Measurement and Monitoring

5 Extracorporeal Assistance and Performance

6 Extracorporeal Therapies

7 Osteopathic

8 Other Procedures

9 Chiropractic

Ancillary Sections:

B Imaging

C Nuclear Medicine

D Radiation Therapy

F Physical Rehabilitation and Diagnostic Audiology

G Mental Health

H Substance Abuse Treatment

New Technology Section:

X New Technology

BODY SYSTEM

Body systems for Medical and Surgical section codes are specified in the second character as listed below.

0 Central nervous system

1 Peripheral nervous system

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2	Heart and great vessels
3	Upper arteries
4	Lower arteries
5	Upper veins
6	Lower veins
7	Lymphatic and hemic system
8	Eye
9	Ear, nose, sinus
B	Respiratory system
C	Mouth and throat
D	Gastrointestinal system
F	Hepatobiliary system and pancreas
G	Endocrine system
H	Skin and breast
J	Subcutaneous tissue and fascia
K	Muscles
L	Tendons
M	Bursae and ligaments
N	Head and facial bones
P	Upper bones
Q	Lower bones
R	Upper joints
S	Lower joints
T	Urinary system
U	Female reproductive system
V	Male reproductive system
W	Anatomical regions, general
X	Anatomical regions, upper extremities
Y	Anatomical regions, lower extremities

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ROOT OPERATIONS

The root operation is specified in the third character. In the Medical and Surgical section there are 31 different root operations, and each one has a precise definition that identifies the objective of the procedure.

Root Operation	Definition	Example
Alteration	Modifying the anatomic structure of a body part without affecting the function of the body part	Breast implants
Bypass	Altering the route of passage of the contents of a tubular body part	CABG Tracheostomy
Change	Taking out or off a device from a body part and putting back an identical or similar device in or on the same body part without cutting or puncturing the skin or a mucous membrane	Foley catheter change
Control	Stopping, or attempting to stop, postprocedural bleeding or other acute bleeding	Control of post-surgical bleeding
Creation	Putting in or on biological or synthetic material to form a new body part that to the extent possible replicates the anatomic structure or function of an absent body part	Transgender surgery
Destruction	Physical eradication of all or a portion of a body part by the direct use of energy, force or a destructive agent	Endometrial ablation
Detachment	Cutting off all or part of the upper or lower extremities	Below-the-knee (BTK) amputation
Dilation	Expanding an orifice or the lumen of a tubular body part	Percutaneous transluminal angioplasty (PTCA)
Division	Cutting into a body part without draining fluids and/or gases from the body part in order to separate or transect a body part	Neurotomy
Drainage	Taking or letting out fluids and/or gases from a body part	Paracentesis Foley catheter
Excision	Cutting out or off, without replacement, a portion of a body part	Breast biopsy Wedge resection of lung
Extirpation	Taking or cutting out solid matter from a body part	Thrombectomy
Extraction	Pulling or stripping out or off all or a portion of a body part by the use of force	Nonexcisional debridement
Fragmentation	Breaking solid matter in a body part into pieces	Lithotripsy

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Root Operation	Definition	Example
Fusion	Joining together portions of an articular body part rendering the articular body part immobile	Spinal fusion
Insertion	Putting in a non-biological appliance that monitors, assists, performs or prevents a physiological function but does not physically take the place of a body part	Central venous catheter (CVC) Pacemaker
Inspection	Visually and/or manually exploring a body part	Diagnostic EGD
Map	Locating the route of passage of electrical impulses and/or locating functional areas in a body part	Cardiac mapping
Occlusion	Completely closing an orifice or the lumen of a tubular body part	Uterine artery embolization
Reattachment	Putting back in or on all or a portion of a separated body part to its normal location or other suitable location	Reattachment of amputated finger
Release	Freeing a body part from an abnormal physical constraint by cutting or by use of force	Carpal tunnel release
Removal	Taking out or off a device from a body part	Removing a CVC
Repair	Restoring, to the extent possible, a body part to its normal anatomic structure and function	Hernia repair without mesh Sutures
Replacement	Putting in or on biological or synthetic material that physically takes the place and/or function of all or a portion of a body part	Total knee arthroplasty (TKA)
Reposition	Moving to its normal location or other suitable location all or a portion of a body part	Fracture reduction
Resection	Cutting out or off, without replacement, all of a body part	Lung lobectomy
Restriction	Partially closing an orifice or the lumen of a tubular body part	Stent graft of an aneurysm
Revision	Correcting, to the extent possible, a portion of a malfunctioning device or the position of a displaced device	Hip prosthesis revision
Supplement	Putting in or on biological or synthetic material that physically reinforces and/or augments the function of a portion of a body part	Hernia repair using mesh Penile implant
Transfer	Moving, without taking out, all or a portion of a body part to another location to take over the function of all or a portion of a body part	Tendon transfer
Transplantation	Putting in or on all or a portion of a living body part taken from another individual or animal to physically take the place and/or function of all or a portion of a similar body part	Heart transplant Kidney transplant

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BODY PART

The body part, which is specified in the fourth character, indicates the specific anatomical site of the body system on which the procedure was performed (for example, duodenum). The body part key provides a cross-reference for additional body parts.

APPROACH

The technique used to reach the site of the procedure is specified in the fifth character.

Approach	Definition
Open	Cutting through the skin or mucous membrane and any other body layers necessary to expose the site of the procedure
Percutaneous	Entry, by puncture or minor incision, of instrumentation through the skin or mucous membrane and any other body layers necessary to reach the site of the procedure
Percutaneous endoscopic	Entry, by puncture or minor incision, of instrumentation through the skin or mucous membrane and any other body layers necessary to reach and visualize the site of the procedure
Via natural or artificial opening	Entry of instrumentation through a natural or artificial external opening to reach the site of the procedure
Via natural or artificial opening endoscopic	Entry of instrumentation through a natural or artificial external opening to reach and visualize the site of the procedure
Via natural or artificial opening with percutaneous endoscopic assistance	Entry of instrumentation through a natural or artificial external opening and entry, by puncture or minor incision, of instrumentation through the skin or mucous membrane and any other body layers necessary to aid in the performance of the procedure
External	Procedures performed directly on the skin or mucous membrane and procedures performed indirectly by the application of external force through the skin or mucous membrane

DEVICE

The device is specified in the sixth character and is used only to specify devices that remain after the procedure is completed. There are four general types of devices: grafts and prostheses, implants, simple/mechanical appliances, or electronic appliances.

QUALIFIER

The qualifier, which is specified in the seventh character, contains unique values for individual procedures as needed. For example, the qualifier can be used to identify the destination site in a bypass.

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EXAMPLES OF PROCEDURE CODES IN ICD-10-PCS

The following are examples of procedures from the Medical and Surgical section that are assigned ICD-10-PCS codes. Coding in ICD-10, especially procedure coding, is not easy! As time goes by and your CDI skills become more proficient, so will your coding.

Suture of skin laceration, left lower arm: 0HQEXZZ

Medical and Surgical section (0), body system Skin and Breast (H), root operation Repair (Q), body part Skin, Left Lower Arm (E), External approach (X) No Device (Z) and No Qualifier (Z).

Laparoscopic appendectomy: 0DTJ4ZZ

Medical and Surgical section (0), body system Gastrointestinal (D), root operation Resection (T), body part Appendix (J), Percutaneous Endoscopic approach (4), No Device (Z) and No Qualifier(Z).

Sigmoidoscopy with biopsy: 0DBN8ZX

Medical and Surgical section (0), body system Gastrointestinal (D), root operation Excision (B), body part Sigmoid Colon (N), Via Natural or Artificial Opening Endoscopic approach (8), No Device (Z) and with qualifier Diagnostic (X).

Tracheostomy using tracheostomy tube: 0B110F4

Medical and Surgical section (0), body system Respiratory (B), root operation Bypass (1), body part Trachea (1), Open approach (0), with Tracheostomy Device (F) and qualifier Cutaneous (4).

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PERFORMING NEW PATIENT AND FOLLOW-UP REVIEWS

NEW PATIENT REVIEWS

HOW DO I GET STARTED?

From a work list or a patient list in your EMR, choose a patient to review and then complete the tasks listed below.

- Review the patient's record in its entirety, including the following, if applicable:
  - Emergency room (ER) Record (MD)
  - ER notes (RN)
  - H&P
  - Progress notes (MD)
  - Progress notes (RN)
  - Consultation notes
  - Operative note(s)
  - Vital signs
  - Labs
  - Scans (X-rays, computed tomography [CT], magnetic resonance imaging [MRI] etc.)
  - Medications
  - Dietician's nutrition notes
  - Extraneous notes: physical therapy (PT), occupational therapy (OT), case management or social worker

The importance of your first review for a patient cannot be underestimated. Please spend appropriate time making sure your initial review is solid and that your notes prepare you for success with all future reviews for this patient.

- **Take notes in your electronic CDI tool while reviewing the patient's record.** You do not need to copy and paste the entire record into the notes section of this tool. *You only need enough notes to develop a clinical picture of the patient and to remind yourself of details when you review this patient again for a follow-up review.*

  We also highly recommend if you do discover an abnormal finding to document the time and note ***in which you found it as you are working. If you wait until the end of your review, you will likely not be able to remember where you found it.*** **And there is nothing worse than reviewing a record twice when you only need to review it once!**

- **Compile diagnoses and/or procedures and assign a MS-DRG.** As you are reviewing the record and figuring out the patient's clinical course, we recommend one of the following two conventions.

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  - Document your diagnoses and/or procedures in your tool and then add them to your Grouper at the end of your review.
  - **Add diagnoses and/or procedures to your Grouper as you go along. This way you capture everything as you work and nothing gets lost in the shuffle. You can always delete diagnoses at the end if they have been ruled out!**

- **Decide if you need to send a query.** Remember, there are several reasons to send a query, including the following.
  - Clinical indicators of a diagnosis but no documentation of the condition
  - Clinical evidence for a higher degree of specificity or severity
  - A cause-and-effect relationship between two conditions or organisms
  - An underlying cause when admitted with symptoms
  - Only the treatment is documented (without a diagnosis documented)
  - POA indicator status

You are not limited to only the above reasons to query!

It is your clinical judgment, critical thinking skills, and understanding of the MS-DRG system that will let you know when or if you need to send a query. Not every record will require a query.

- **If you do need to send a query, write the query, send electronically, and make a copy in your electronic CDI tool.** Keeping copies of queries is highly encouraged, but the details of how this is completed will be left up to your CDI leadership.

PRIORITIZING NEW PATIENT REVIEWS

Learning to prioritize who to see first is a skill that will improve over time. We recommend that all inpatients be reviewed within 48 hours of admission.

Your EMR can help you decide who to see. For example, let's say you are the CDS assigned to the medical floor. You log in to your EMR and you see the following patients that could be reviewed.

Room	Acct #	Name	Age/Sex	Inpt Days	Problem in EHR
202	XXX	CONNER, -	82/F	0	Abdominal pain
206	XXX	SMITH, -	64/M	2	Afib, shortness of breath (SOB)
212	XXX	JONES, -	68/M	1	PNA, homeless
213	XXX	PAGGET, -	42/F	4	SOB, COPD
222	XXX	CLANCY, -	56/F	3	Ileus, malnutrition
224	XXX	HOLLAND, -	92/M	5	GI bleed, anemia
225	XXX	RICHARDS, -	66/F	2	Pneumonia, acute respiratory failure

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Who do you choose first? In a perfect world you would be able to get to all of these patients in one day; however, we all know this may not be possible, particularly for a new CDS. Also, the above scenario is only possible if your EMR is capable of sorting patients in this way. If not, you may have to get creative in figuring out where to start.

As for the patients listed in the table above, here are our recommendations and the reasons for them.

- **Room 202, 0 days ➡ Abdominal Pain:** You would not likely start here. The patient has not even been in the hospital for 24 hours, which often does not give the medical team enough time to accurately diagnose. You would likely wait approximately one day to review this patient.
- **Room 206, 2 days ➡ Afib, SOB:** This patient would definitely be reviewed today since he has been here for two days and could be in a MS-DRG without a CC or MCC (difficult to know without fully reviewing the record). What you do know is that he has been diagnosed with atrial fibrillation, which is a great starting place for review.
- **Room 212, 1 day ➡ PNA, homeless:** You should definitely review this patient today. He has a diagnosis of pneumonia and is homeless, indicating this could more than just a simple pneumonia.
- **Room 213, 4 days ➡ SOB, COPD:** You would definitely review this patient today, who has been in the hospital for four days and only has SOB documented with COPD. This could easily be a record that requires a query, although it is difficult to know until the record is fully reviewed.
- **Room 222, 3 days ➡ Ileus, Malnutrition:** This record also needs to be reviewed; however, there are other more critical reviews that have higher priority. Right now this patient has a solid PDX of ileus with a solid secondary diagnosis of malnutrition without even reviewing the record. Again, get to this record; it will likely need clarification for the stage of malnutrition. But there are other higher priority chart reviews that should occur first.
- **Room 224, 5 days ➡ GI Bleed, Anemia:** This patient should definitely be reviewed today. He has a long LOS (5 days) and may only have a gastrointestinal (GI) bleed documented. Anemia likely needs clarification.
- **Room 225, 2 days ➡ PNA, Acute Respiratory Failure:** All records need to be reviewed; however, of all the records mentioned here, this is the lowest priority. This patient has pneumonia (PNA) and ARF documented, likely ensuring an MCC. Review first the records of other patients, then move on to this one.

Again, you will get better at this skill over time. In the end, all inpatients need to be reviewed if possible.

FOLLOW-UP REVIEWS OR ADDITIONAL REVIEWS

WHAT IS A FOLLOW-UP REVIEW?

A follow-up review may sometimes be called an additional review or a second, third, fourth, or sixteenth review. Whatever your CDI team decides to call it, follow-up reviews are extremely important, although many CDSs underestimate their value because they want to just move on to

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see other patients. Though this ambition is admirable, follow-up reviews are significant in continuing to identify any missing documentation and making sure all documentation remains complete. Also, many query opportunities are often not found until the second or third review, as it often takes several days to establish a patient's plan of care and ascertain diagnoses.

When performing a follow-up review, you will use the same logic as completing a new patient review; you will just start where you left off. This is why your notes in your CDI tool are so important: They are what you will have to go by when starting your follow-up reviews. Sometimes it is easy to keep track of patients, because they are interesting or are having a particular procedure. However, over time many of your patients will begin to look similar, and your notes will be your lifeblood for your follow-up reviews.

ORDER OF IMPORTANCE

You may be thinking, "Okay, I reviewed seven new patients yesterday. When do I begin follow-up reviews?" Consider the following first then be judicious in your next choices.

- Patients with open queries ("open" = has not yet been answered)
- Patients who are currently in high-risk MS-DRGs (symptom MS-DRGs, MS-DRG without a CC or MCC)

Most patients will need daily or every-other-day follow-up by CDI staff for the first several days of their stay. This ensures that documentation is complete, and they are assigned to the best MS-DRG and SOI/ROM possible.

However, not every patient needs to be reviewed daily. Take, for example, a patient in the ICU who has been on a ventilator for five days with multiple MCCs and procedures. It is unlikely that this patient needs daily follow-up.

Recommendation: Be judicious when choosing who you review and how often you perform follow-up reviews. This will save you time and will allow you to focus on the patients that truly need your attention.

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QUERIES: A TOOL FOR CDI SUCCESS

CDS queries (also known as clarifying questions or clinical clarification) are a tool for clarifying a record. Anyone can review records and do nothing. Your job is to review records; identify any missing, vague, or nonspecific documentation; and question the provider for clarification. The importance of queries and how valuable your role is cannot be stressed enough.

That being said, there are very strict guidelines for asking a provider a question. You can't just walk up to them and say, "Hey, your patient had room air sats in the 60s and is now on bilevel positive airway pressure (BiPap). Do you think he might have acute respiratory failure?" That is unethical. There are guidelines and a code of ethics for us to follow regarding the query process, and many of those concepts are provided below.

The scope and policy of query guidelines are to clarify physician documentation whenever there is conflicting, ambiguous, or incomplete information in the medical record regarding any significant reportable condition or procedure.

WHO SHOULD SEND QUERIES?

Only qualified individuals with strong competencies in the following areas will be allowed to perform the query process:

- Knowledge of healthcare regulations, including reimbursement and documentation requirements
- Clinical knowledge with training in pathophysiology
- Ability to read and analyze all information in a patient's health record
- Established channels of communication with providers and other clinicians (AHIMA, 2016)

WHAT IS A QUERY?

A query is a communication tool used to clarify documentation in the health record for accurate code assignment. It is a question posed to a provider to obtain additional, clarifying information to improve the specificity and completeness of the data used to assign diagnosis and procedure codes.

As a result of the disparity in documentation practices by providers, querying has become a common communication and educational method to advocate proper documentation practices. According to AHIMA (2016), queries may be made in situations such as the following:

- Clinical indicators of a diagnosis but no documentation of the condition

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- Clinical evidence for a higher degree of specificity or severity
- A cause-and-effect relationship between two conditions or organism
- An underlying cause when admitted with symptoms
- Only the treatment is documented (without a diagnosis documented)
- POA indicator status.

Examples related to the above are provided in the table below.

Clinical indicators of a diagnosis but no documentation of the condition	Patient presents with pneumonia; WBC 19.6, temp 101.6, HR 122, RR 26. Blood cultures obtained and antibiotics x 3 started. No documentation of SIRS or sepsis, only pneumonia documented.
Clinical evidence for a higher degree of specificity or severity	"CHF" documented for patient. BNP 2400, 3+ BLE edema, and SOB. IV Lasix given, ECHO shows EF 30%. No mention of acuity/type of CHF.
A cause-and-effect relationship between two conditions or organism	Patient presented with PNA. Sputum cultures x 2 have grown. Pseudomonas and antibiotics changed. No mention of "pseudomonas pneumonia" or "PNA due to Pseudomonas" in the patient's record. "PNA" is the only documentation.
An underlying cause when admitted with symptoms	Patient presents with abdominal pain. Ileus found on CT, but "abdominal pain" remains the only documentation in the problem list and progress notes.
Only the treatment is documented (without a diagnosis documented)	You see documentation of "start TPN, needs nutritional consult." No documentation of any malnutrition, cachexia, or any other diagnosis.
POA indicator status	Starting on hospital day three, you see documentation of a PU stage 2 without mention of POA status.

A THREE-STEP APPROACH

All queries should include clinical indicators and should not specify any effect on reimbursement. As discussed above, queries should not be **leading.** The following could be considered "leading queries."

- The query is sent exclusively to increase reimbursement.
- It does not include appropriate clinical indicators, risk factors, and/or treatment regarding the question being asked.
- It does not include appropriate multiple choice options for the provider or only includes one diagnostic option.
- It includes inappropriate clinical indicators, risk factors, or treatment.

As a refresher for those who need them, definitions of the three step-approach include the following:

Clinical Indicator: Signs and symptoms, findings, or all clinical facts that lead you to believe your patient may have a particular diagnosis

Risk Factor: Anything that puts the patient at risk for developing particular disease processes

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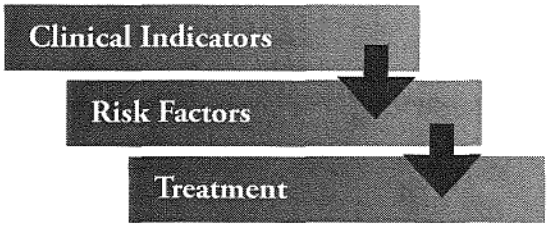
Treatment: Parts of a plan of care that the medical team either orders or performs in order to care for the patient.



Without at least two of the above—clinical indicators and treatment in particular, you should reconsider submitting the query. Ideally, all three of the above components should be a part of every query.

WHAT'S THE BEST PRACTICE FOR SENDING QUERIES?

We recommend that all queries are captured as part of the patient's medical record (hopefully electronically). This means that a written copy of the query is maintained as part of the patient's record and not deleted once the patient is discharged.

Although verbal queries are acceptable, they need to be transferred into a written copy as well to ensure best practice. Doing so prevents problems with compliance in the future if the record is ever audited and allows CDI leadership to monitor CDI progress and overall query compliance.

Although a query can be sent at any time—either concurrently during the patient's stay or post-discharge, the best practice for CDI is to send them concurrently. Think of someone asking you, "Hey! Who was the checkout person that helped you with your groceries last week?" You likely cannot remember. However, if someone asked you the same question about your grocery trip from today, you might at least remember something about them.

Providers care for a large number of patients simultaneously in the hospital. Sending queries concurrently provides them with the best, up-to-date information for better answering our questions.

WHAT SHOULD YOU INCLUDE IN THE QUERY?

The following must be included in all queries:

- Patient name
- Admission date and/or date of service
- Health record number
- Account number
- Date query initiated
- Name and contact information of the individual initiating the query
- Statement of the issue in the form of a question along with clinical indicators specified from the patient's record (AHIMA 2016)

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If you are querying electronically, the first five items listed above are included naturally. If you are querying on paper, then ensure that all of these components are included.

DIAGNOSTIC OPTIONS OF A QUERY

The best format for queries is a multiple-choice one. AHIMA (2016) says the following about the format of queries:

> *Multiple choice query formats should include clinically significant and reasonable options as supported by clinical indicators in the health record, recognizing that there may be only one reasonable option. As such, providing a new diagnosis as an option in a multiple choice list—as supported and substantiated by referenced clinical indicators from the health record—is not introducing new information. Multiple choice query formats should also include additional options such as "clinically undetermined" and "other" that would allow the provider to add free text. Additional options such as "not clinically significant" and "integral to" may be included on the query form if appropriate.*

This means that the diagnostic options you present cannot include only once choice—even if it is clearly obvious from the record that only one option is reasonable.

There will occasionally come a time when you will need to ask a "yes/no" query, particularly when the medical record contains conflicting information. For example, one provider says the patient has sepsis, and the other says she does not. When this occurs, AHIMA (2016) states:

> *The "yes/no" query format should be constructed to include the additional options associated with multiple choice queries (i.e., "other," "clinically undetermined," and "not clinically significant and integral to"). Yes/no queries may not be used in circumstances where only clinical indicators of a condition are present, and the condition or diagnosis has yet to be documented in the health record. Also new diagnoses cannot be derived from a yes/no query.*

HEADS UP

Do not **bold**, *italicize, underline, or change the font for the diagnosis you "want" your provider to choose. This is noncompliant and unethical. If auditors see this they will call this "leading" or "fraudulent."*

WHAT IS THE IMPACT OF YOUR QUERY?

When sending queries and receiving responses back from providers, it is of utmost importance that you track your query impact **correctly.** It is imperative to take credit and make sure that all of your query impacts are tallied correctly; it is also important not to overstate your impact, as this would be inappropriate. Your facility will have very specific guidelines for you to follow in order to make sure this happens.

Here are a few examples that may help you to identify the impact you should assign.

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BRIEF CASE STUDY AND IMPACT ACKNOWLEDGMENT

You are reviewing the record of a patient with the following documented in his H&P.

```
HOSPITAL PROBLEMS:
1.CHF Exacerbation – Acute on Chronic Systolic CHF. Last EF very low
  at 15-20%. Needs a new ECHO. Started IV Lasix 60mg BID, already hav-
  ing excellent urine output in the ER. Continue to monitor. Checking
  daily BMP to make sure kidneys are tolerating.
2.Severe hypoxia – in ER nursing relayed to me that his room air
  sats were around 65% and he was using intercostals to breathe, NRB
  applied immediately @ 100%. Patient still on NRB, seems to be toler-
  ating well. Keep watching. Ordered Respiratory therapy to eval him.
3.CKD stage 2. Again, tolerating Lasix so far – slight bump in creati-
  nine from 1.3 in ER to 1.8 today. Keep watching.
4.HTN.
5.PVD.
6.OSA.
I spent 45 minutes in direct face-to-face contact with this patient in
the Intermediate care wing. -Dr. Smith
```

You know Dr. Smith very well. Although he is an excellent provider, he "only tolerates you CDI people because I know it's good for the hospital." You have been "warned" by him to never send him more than one per patient per day because he "can't handle it."

After thorough review of this record, you see two query options: 1) clarify "severe hypoxia" (for possible acute respiratory failure) and 2) clarify for "slight bump in creatinine 1.3 to 1.8" (for possible acute renal failure or acute kidney injury). Since you know that the acute respiratory failure will not only add the appropriate MCC to the record and overall show how much care the patient required (non-rebreather [NRB] mask, respiratory therapy, treating CHF, intermediate bed level) you make the tough decision and choose to send the acute respiratory failure query. You figure that during your next review you can send the acute renal failure query and do not want to overwhelm Dr. Smith. You send the query requesting clarification of hypoxia.

The next day you go to the intermediate-care floor and find Dr. Smith in a pleasant mood. After a brief discussion, he says he will get to your query "later." The next day you arrive to work and check your in-basket to find that Dr. Smith has responded back to your electronic query and has updated his progress notes to read the following.

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PROGRESS NOTE

HOSPITAL PROBLEMS:

1.CHF Exacerbation – Acute on Chronic Systolic CHF. New EF about the same, 15%. Patient's CHF status overall tenuous. Responding great to IV Lasix.

2.Acute Hypoxic Respiratory Failure, present on admission. Doing much better in this regard. Hypoxic in ER, was on NRB, now on 5L. May require O2 on D/C? Make sure this is tested before D/C.

3.CKD stage 2. Again, tolerating Lasix so far – slight bump in creatinine from 1.3 in ER to 1.8 today, highest was 1.9, now back to 1.4.

4.HTN. Restart Lopressor.

5.PVD.

6.OSA.

I spent 30 minutes in direct face-to-face contact with this patient in the Intermediate care wing. -Dr. Smith

You update everything in your CDI tool to reflect your current impact, remembering that you may have to go back in later and update it again. You decide to not push your luck with the acute renal failure query and wait one more day before sending it.

The next day you go to review this patient, only to find out he has been discharged. You read the following in the discharge summary:

DC SUMMARY

HOSPITAL PROBLEMS:

1.CHF Exacerbation – Acute on Chronic Systolic CHF.

2.Acute Hypoxic Respiratory Failure, present on admission.

3.CKD stage 2.

4.HTN.

5.PVD.

6.OSA.

HOSPITAL COURSE: 73 y/o male patient who arrived in clear CHF exacerbation. Responded extremely well to IV Lasix – mild creatinine bump on hospital day #2, but responded well to very small continuous IV fluid. Made appointment for next day f/u with his Cardiologist – reports to me he has not been following up well, explained he'll keep having hospital visits if he doesn't f/u, patient understands. Lasix adjusted to 40mg am and 20mg pm. Lopressor increased to 50mg PO BID as well. Patient's O2 sat during O2 walk test dipped down to 90%, but patient did not have any difficulty breathing. He refused home oxygen at this time but will likely need it in the future. Also informed his daughter where he could buy a pulse oximeter, she insisted they would obtain one. Overall patient did well and D/C home with home health on hospital day #5.

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You assign your query impact as the following. Note: The "baseline MS-DRG" is what the record likely would have final-coded to if CDI had never reviewed it.

Pre-Query		Post-Query	
Baseline MS-DRG	293: Heart Failure & Shock *without* CC/MCC	**Final MS-DRG**	291: Heart Failure & Shock *with* MCC
Relative Weight	0.6656	**Relative Weight**	1.3454
GMLOS	2.4 days	**GMLOS**	4.1 days
SOI/ROM Score	1/1	**SOI/ROM score**	3/3
Your final query impact on the relative weight is 0.6798 (1.3454 minus 0.6656). You increased the SOI/ROM from 1/1 to 3/3.			

LET'S CHANGE ONE THING

Let's re-examine the scenario presented above and change the patient's discharge summary to read as follows.

DC SUMMARY

HOSPITAL PROBLEMS:

1.CHF Exacerbation – Acute on Chronic Systolic CHF.

2.Acute Hypoxic Respiratory Failure, present on admission.

3.**Acute Renal Failure (resolved)** on CKD stage 2.

4.HTN.

5.PVD.

6.OSA.

HOSPITAL COURSE: 73 y/o male patient who arrived in clear CHF exacerbation. Responded extremely well to IV Lasix – mild creatinine bump on hospital day #2, but responded well to very small continuous IV fluid. Made appointment for next day f/u with his Cardiologist – reports to me he has not been following up well, explained he'll keep having hospital visits if he doesn't f/u, patient understands. Lasix adjusted to 40mg am and 20mg pm. Lopressor increased to 50mg PO BID as well. Patient's O2 sat during O2 walk test dipped down to 90%, but patient did not have any difficulty breathing. He refused home oxygen at this time but will likely need it in the future. Also informed his daughter where he could buy a pulse oximeter, she insisted they would obtain one. Overall patient did well and D/C home with home health on hospital day #5.

Do you see the small change bolded above? In this example, the physician (without your query) documented acute renal failure, which is a CC. If this were the case, then our pre- and post-query impact would be different from the first example and would look like this.

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Pre-Query		Post-Query	
Baseline MS-DRG	292: Heart Failure & Shock *with* CC	**Final MS-DRG**	291: Heart Failure & Shock *with* MCC
Relative Weight	0.9198	**Relative Weight**	1.3454
GMLOS	3.3 days	**GMLOS**	4.1 days
SOI/ROM Score	2/2	**SOI/ROM score**	3/3
Your final query impact on the relative weight is 0.4256 (1.3454 minus 0.9198). You increased the SOI/ROM from 2/2 to 3/3.			

Both of the above scenarios show an excellent impact on a record. However, when you are going through and validating your work in your CDI tool, you need to make sure to assign the appropriate baseline MS-DRG for all of your records. Sometimes this is more difficult to determine than you think!

Utilize your critical thinking skills to help answer the question: What would this record have likely final-coded to if a CDI specialist had never looked at it?

WHAT ARE POSSIBLE QUERY IMPACTS?

Change	Explanation
Principal Diagnosis Change	Your query and the response from the physician changed the principal diagnosis. This frequently changes the MS-DRG, but not always.
Procedure	Your query and the response from the physician changed or increased the specificity in which the procedure was coded. This frequently changes the MS-DRG, but not always.
CC	Your query and the response from the physician established a CC for the record. **After final coding this is the only CC that coded.** If several other CCs coded, you cannot take credit for changing a MS-DRG that would have changed anyway. This frequently changes the MS-DRG, but not always.
MCC	Your query and the response from the physician established an MCC for the record. **After final coding this is the only MCC that coded.** If several other MCCs coded, you cannot take credit for changing a MS-DRG that would have changed anyway. This frequently changes the MS-DRG, but not always.
SOI increase	Your query and the response from the physician increased the SOI score. For example, prior to your query in final coding the SOI/ROM score was 2/2; after you added your code to the grouper software it is now 3/2.
ROM increase	Your query and the response from the physician increased the ROM score. For example, prior to your query in final coding the SOI/ROM score was 2/2; after you added your code to the grouper software it is now 2/3.
SOI & ROM increase	Your query and the response from the physician increased both the SOI and ROM score. For example, prior to your query in final coding the SOI/ROM score was 2/2; after you added your code to the grouper software it is now 3/3.
Second CC	Your query and the response from the physician established a second CC for the record, helping protect it from audit in the future. **After final coding this is the second CC that coded.** If several other CCs coded, you cannot take credit for this. This does not change the MS-DRG.

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Change	Explanation
Second MCC	Your query and the response from the physician established a second MCC for the record, helping protect it from audit in the future. **After final coding this is the second MCC that coded.** If several other MCCs coded, you cannot take credit for this. This does not change the MS-DRG.
Hospital-acquired condition (HAC) prevention	Your query and the physician response allowed the coder to correctly code something POA, removed an old diagnosis from the record, or another example of a HAC not being coded out due to your query.
Other	Other
None or education	Some queries, despite our best efforts and even with a positive physician response, do not have any of the above impacts on records.

Make sure to follow your facility's rules and guidelines when filling in your query impact in your CDI tool. Often, if this is not filled in accurately, your query impact is incorrect. Make sure to take credit for your excellent CDI work!

EXAMPLES OF COMPLIANT QUERIES

CLINICAL INDICATORS OF A DIAGNOSIS BUT NO DOCUMENTATION OF THE CONDITION

Clinical Scenario: In the impression of the pathology report, "ovarian cancer (adenocarcinoma)" is documented; however, only "ovarian mass" is documented in the final discharge statement by the provider.

Query: Do you agree with the pathology report specifying the "ovarian mass" as an "ovarian cancer"? Please document your response in the health record or below.

- Yes, patient has ovarian cancer.
- No, patient has ovarian mass only.
- Clinically undetermined
- Other, please specify: _____

Name: _____

Date: _____

Rationale for why this is compliant: This yes/no query involves confirming a diagnosis that is already present as an interpretation of a pathology specimen in the health record. It is not leading.

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CLINICAL EVIDENCE FOR A HIGHER DEGREE OF SPECIFICITY OR SEVERITY

Clinical Scenario: Your patient has CHF documented.

Can you further specify the type of and acuity of this patient's CHF?

- Systolic CHF exacerbation
- Acute systolic CHF
- Chronic systolic CHF
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Echo 25% EF, + BLE edema 2+, SOB with 88% room air sat on admit, CHF per CXR

Risk Factors: History of CHF and noncompliance with medications

Treatment: IV Lasix, obtained a new echo, CXR x 2, continued her home CHF medications and offered CHF education

Name: _____

Date: _____ Date: _____

Rationale for why this is Compliant: This is compliant secondary to inclusion of multiple-choice format (including clinically undetermined and other please specify), and it includes clinical indicators, risk factors, and treatment. It is not leading.

A CAUSE-AND-EFFECT RELATIONSHIP BETWEEN TWO CONDITIONS OR ORGANISMS (EXAMPLE 1)

Clinical Scenario: Your patient has a documented history of type II diabetes; he is currently being treated for a gastroparesis and hyperglycemia.

Can you further specify if there is a relationship between conditions?

- Gastroparesis 2/2 to uncontrolled diabetes
- Gastroparesis 2/2 to diabetes, controlled
- Gastroparesis unrelated to diabetes
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Abdominal pain, n/v, high blood glucose levels (300–500 over the last two days), and documentation of a current "probable gastroparesis"

Risk Factors: History of DM and noncompliance with insulin regime at home

Treatment: Insulin glucose tolerance test (GTT), monitoring hourly blood glucose levels, have started Reglan, and are attempting to control his symptoms and pain

Name: _____

Date: _____

Rationale for why this is compliant: Clinical indicators, risk factors, and treatment are all present. There is already documentation of DM and gastroparesis, and you are clarifying if there is a relationship present. This is not leading.

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A CAUSE-AND-EFFECT RELATIONSHIP BETWEEN TWO CONDITIONS OR ORGANISMS (EXAMPLE 2)

Clinical Scenario: Documented healthcare-associated pneumonia (HCAP) with sputum culture growth of MRSA

Can you further specify if there is a relationship between these conditions?

- Staphylococcus MRSA pneumonia
- Simple pneumonia only
- HCAP pneumonia only
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Patient presented with pneumonia via CXR and symptoms from his nursing home with sputum culture growth of MRSA

Risk Factors: Nursing home resident, frequent infections

Treatment: Initially started on IV Rocephin and Azithromycin, and IV antibiotics changed yesterday to Vancomycin and Zosyn. We have checked sputum cultures, oxygen at 2L, and provided breathing treatments.

Name: _____

Date: _____

Rationale for why this is compliant: Clinical Indicators, risk factors, and treatment are all present. You are asking for a relationship between sputum growth and pneumonia that is currently not documented. This is not leading.

AN UNDERLYING CAUSE WHEN ADMITTED WITH SYMPTOMS

Clinical Scenario: You patient has "chest pain" and "elevated troponins" documented.

Can you further specify the cause of this patient's chest pain?

- Chest pain 2/2 ~~to~~ MI (STEMI)
- Chest pain 2/2 to MI (NSTEMI)
- Chest pain 2/2 to angina
- Chest pain due to non-cardiac cause
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Chest pain, diaphoresis, and SOB on admission, troponin 12.1 (trending down ➡ 9.4 today), ST-segment elevation on EKG

Risk Factors: History of old MI with stent, advanced age (91)

Treatment: Nitro, oxygen at 4L, Aspirin, cardiology consult, and we are working her up for a possible stent or CABG. (The family is deciding.)

Name: _____

Date: _____

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THE TREATMENT, BUT NOT THE DIAGNOSIS, IS DOCUMENTED

Clinical scenario: You patient has "transfuse 2 units" documented in their plan of care.

Can you provide a diagnosis for this treatment?

- Acute blood loss anemia
- Acute blood loss anemia with chronic iron-deficiency anemia
- Chronic iron-deficiency anemia only
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Patient's H&H on admission 8.6/28.4, hospital day #2 H&H 6.4/24.2 with some dizziness and weakness with documented source of blood loss (GI bleed)

Risk Factors: Iron deficiency anemia and current GI bleed

Treatment: Transfusing two units of PRBCs (packed red blood cells), monitoring serial labs (CBC, H&Hs), also giving IV fluids

Name: _____

Date: _____

Rationale for why this is compliant: Clinical Indicators, risk factors, and treatment are all present. You are trying to determine a diagnosis for only treatment provided in a patient's plan of care. There are plenty of multiple choice options so this is not a leading question.

PRESENT ON ADMISSION (POA INDICATOR STATUS)

Clinical scenario: Your patient has a pressure ulcer stage 3 of the coccyx documented by Dr. Walker in a progress note on hospital day three.

Can you further specify the POA status of this pressure ulcer?

- Yes, stage 3 pressure ulcer of coccyx POA
- No, stage 3 pressure ulcer of coccyx not POA
- Clinically undetermined
- Other, please specify _____

Name: _____

Date: _____

Rationale for why this is compliant: A physician has already stated that the patient has a stage 3 pressure ulcer of the coccyx. You are simply trying to determine whether this is PU on POA. (If this is not clarified as POA, it is reported out as a HAC.)

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FOLLOW-UP ON YOUR QUERIES

"Okay – Dr. Jones saw my query and didn't answer. I guess he just won't answer. I'll move on and review a new patient."

--------> *WRONG!* <--------

One of your responsibilities is following up on your patient queries, particularly the ones that have been left unanswered for 24 to 48 hours. Each facility will have their own guidelines for answering queries. Some facilities are very supportive of CDI, and expect physicians to answer queries within a set amount of time and to have a certain response rate (i.e., > 90%). In fact, this may be part of their contract.

At other facilities CDI is very new and guidelines are not yet in place for this. In either case, if you have a query on a patient that has not been answered, it is your responsibility to take it to the next level. This can include any of the following:

- Face-to-face conversation with physician
- Paging a physician
- Emailing a physician
- Calling a physician

We recommend getting to know your physicians and their communication preference. Many of them simply need a reminder, as they have so many responsibilities it can be easy to forget to answer a query. We cannot emphasize enough how important a face-to-face conversation can be in establishing a CDI program and getting physicians on board for the future of CDI. Often after one encounter with you they will answer queries with no difficulty!

CLOSING REMARKS

Queries are the lifeblood of CDI. As you are starting out in your new role as a CDS, you may be nervous sending them, which is entirely normal. Make sure they are compliant according to the above-stated rules. Lastly, ensure that your queries are grammatically correct. Providers will only have one first chance to be introduced to CDI, so you want to make sure it is the right introduction. It is also slightly hypocritical for us to expect high-quality documentation from them when we ourselves do not ask them questions in a high-quality way.

Lastly, AHIMA states, "Queries must be written with precise language, identifying clinical indications from the health record and asking the provider to make a clinical interpretation of these facts based on his or her professional judgment of the case. The query format should not sound presumptive, directing, prodding, probing, or as though the provider is being led to make an assumption."

Please make sure to follow the above guidelines to create the best quality queries.

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INTRODUCTION TO CDI METRICS

TYPES OF METRICS

Every CDI program is different. Only your CDI leadership can determine what metrics you will keep track of. The following are the most frequent ones measured in the CDI community.

INDIVIDUAL METRICS

- New patients reviewed
- Follow-up reviews performed on each patient
- Number of queries sent
- Query percentage (compared to patients reviewed)
- Financial impact
- SOI/ROM impact
- Second CC and second MCC capture rates

This data will likely be measured monthly. However, your manager or leadership may monitor your performance on a weekly basis.

TEAM METRICS

- Total new patients reviewed
- Percentage of inpatients reviewed
- May be split up by payer (i.e., Medicare)
- Number of queries sent
- Query percentage (compared to all patients reviewed)
- Physician-response rate
- Physician agree rate, disagree rate
- Financial impact of entire team
- SOI/ROM impact of team
- Second CC and second MCC capture rates of team

OTHER POSSIBLE METRICS

- Queries that prevented inappropriate HACs reported out
- Patient safety indicator queries

HOW MANY PATIENTS WILL I NEED TO REVIEW?

The answer to this question is up for debate, and the ultimate decision lies in your CDI leadership. Here is the ultimate question: Are you only doing CDI work (reviewing records, sending queries,

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working on the floor, and educating physicians)? Or are you doing other work, such as one of the following, as well?

- CDI work only
- CDI work and utilization review (UR) work
- CDI work and quality work
- CDI work, UR, quality and case management

If you are accountable for a multitude of responsibilities, then your review numbers will be different when compared to a CDI specialist whose only responsibility is CDI work. The CDI staff and the CDI leadership should take this into account when assigning productivity expectations.

Listed below are recommendations for chart-review goals and expectations for CDI staff that are exclusively doing CDI work.

FIRST SIX MONTHS OF CDI WORK

Focus	Number
New patient records reviewed daily	6
Query rate	30 percent
Physician response rate	85–90 percent
Physician agreement rate	85–90 percent

SIX MONTHS TO ONE YEAR OF CDI WORK

Focus	Number
New patient records reviewed daily	8
Query rate	30 percent
Physician response rate	90–95 percent
Physician agreement rate	90–95 percent

MORE THAN ONE YEAR OF CDI WORK

Focus	Number
New patient records reviewed daily	10–15
Query rate	30 percent
Physician response rate	90–95 percent
Physician agreement rate	90–95 percent

Again, these final numbers will be left up to your CDI leadership.

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CONNECTING WITH PHYSICIANS AND PROVIDERS

If CDI staff do not develop relationships or connect with providers, the program will not be successful. A CDI specialist can review documentation, identify any gaps, and send queries; however, if physicians do not understand the importance of the questions being asked the value of the program is null.

INTRODUCING YOURSELF

In your role as a CDI specialist, you need to be prepared with a very brief, short dialogue for providers who ask you questions like the following: "So, what's the deal? What is CDI?" Instead of stuttering through this, you should be able to concisely state (in a friendly fashion!) what it is you do, why you are doing it, and how it benefits the physician and the hospital. It should take you less than 30 seconds. Here is an example—and an example only—of what you might say: *"I am a clinical documentation improvement specialist. This means I review records and identify any gaps in documentation that may prevent records from being accurately coded to best reflect the severity of illness of your patients. I'm here to help with any documentation needs."*

EDUCATION, EDUCATION, EDUCATION

The first step in introducing providers to CDI is education, and the best place to start is in a group of physicians.

Consider preparing a presentation for each of the influential groups in your hospital, like the hospitalists, general surgeons, and consultants. You may also consider obtaining support from one, if not multiple, well-liked and well-respected physicians. Introduce all of the CDI staff, explain the purpose of CDI, and educate them regarding how queries will be sent and how they should be answered.

Starting education in groups lets physicians know this is not an individual endeavor. Rather, CDI is a team effort, and if all physicians understand the purpose and know they are all in it together, they are more likely to be compliant.

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PHYSICIAN CHAMPION OR ADVISOR

Once your CDI program is well-established and you have support from your leadership, you might consider assigning a physician champion or advisor for CDI—an extremely important role.

The physician advisor needs to be well-liked and respected throughout the hospital. He or she will spend a small amount of time during the week (between four and eight hours) auditing cases, reviewing queries, and communicating with difficult providers. This physician can also help with recovery audit contractor (RAC) reviews if need be.

This role is difficult to get established when CDI is new. However, once your program is up and running and leadership can see the benefits of CDI, this should not be difficult to "sell."

Here are two organizations that you may want to consult:

- American College of Physician Advisors: *www.acpadvisors.org*
- National Association of Physician Advisors: *www.worldcongress.com/NAPA*

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PEPPER REPORT

HOW CAN THE PEPPER REPORT ASSIST YOU WITH RAC ACTIVITY?

The Program for Evaluating Payment Pattern Electronic Report (PEPPER) is a tool that can be used to assess whether your hospital is being over- or underpaid for Medicare claims. It can also identify the top 10 medical and surgical MS-DRGs for your hospital, which will help you and your hospital to know which areas may be a focus for outside auditors.

The Department of Health & Human Services Office of Inspector General (OIG) encourages hospitals to develop and implement a compliance program to protect their operations from fraud and abuse (DHHS 1998 and 2005). Every PEPPER report contains data for each area of risk for improper payment or target areas in the last 12 federal fiscal quarters (Pepper Resources, 2015).

Examples of recurrent risk areas include the following:

- CVA vs TIA
- Respiratory infections (complex pneumonia vs simple pneumonia)
- COPD vs respiratory failure with and without vent
- Urinary tract infection (UTI) vs sepsis
- COPD vs simple pneumonia
- Medial back problems (MS-DRGs 551 and 552)
- Syncope and other circulatory disorders (MS-DRGs 314–316)
- Other digestive disorders (MS-DRGs 393–395)
- Excisional debridement vs non-excisional debridement
- Medical and surgical MS-DRGs with a CC/MCC vs without CC/or MCC
- PTCA with three stents implanted.

PEPPER cannot detect ACTUAL over- or underpayments for Medicare, only areas of risk.

Target area = Area identified as at risk for improper payments.

Constructed as a ratio:

$$\frac{\text{Numerator = discharges identified as problematic (likely to be miscoded or admitted unnecessarily)}}{\text{Denominator = larger reference group that contains the numerator}}$$

Neither the numerator nor the denominator will display if <11. The target area percentage provides your hospital with information about its billing patterns. Percentiles are used to compare your hospital's data to other hospitals, which can give your hospital more insight as to how you are measuring up against similar like-sized hospitals.

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Definition of a Percentile: The percentage of hospitals with a lower target area percent.

The top two hospitals' percentages are at or above the 80th percentile.

The bottom two hospitals' percentages are at or below the 20th percentile (for areas at risk for under-coding only). *(Pepper Resources, 2015).*

Below is an example of a short-term acute-care hospital's PEPPER report.

Target	Description	# of Target Dischrgs	Percent	Hospital National %ile	Hospital Jurisd %ile	Hospital State %ile	Sum of Payment
Stroke/ ICH	Proportion of discharges with MS-DRG equal to 061, (CVA w tPA w MCC), 062 (CVA w tPA w CC), 063 (CVA w tPA w/o CC/MCC), 064 (CVA w MCC), 065 (CVA w CC or tPA in 24 hours), 066 (CVA w/o CC/MCC) to discharges with MS-DRG equal to 061, 062, 063, 064, 065, 066, 067 (nonspec CVA & precrb occl w/o infrct w MCC), 068 (nonspec CVA & precerb occl w/o infrct w/o MCC), 069 (TIA)	24	80.0%	50.7	58.9	51.2	$158,353
Respiratory Infections	Proportion of discharges with MS-DRG equal to 177 (Complex Pneumonia w/ MCC), 178 (Complex Pneumonia w/ CC), to discharges with MS-DRG equal to 177, 178, 179 (Complex pneumonia w/o CC/MCC), 193 (simple pneumonia w/ MCC), 194 (simple pneumonia w/ CC), 195 (simple pneumonia w/o CC/MCC)	12	24.5%	27.6	39.7	37.0	$115,530

WHAT DOES THIS MEAN FOR CDI?

Though the above information may be difficult to comprehend during your introduction to CDI, the PEPPER report highlights why it is so imperative that physicians document at the highest specificity possible. If providers document symptoms, instead of diagnoses, throughout the record or document nonspecific diagnoses throughout the record, they are not accurately representing the severity of their patients. Not only that, but what if the hospitals they are being compared to have robust CDI programs? Or more accurate coding? Or physicians who are supportive of CDI initiatives? Or, worse, a combination of all three? This likely means that the comparisons made between that hospital and yours may be poor, and it is all due to documentation.

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Physicians do not receive training on how to document in medical school. To clarify, physicians receive training on how to document based on what the patient is experiencing clinically. They are then evaluated by other physicians. They do not receive training on coding or how all of their documentation impacts quality scoring and hospital outcomes.

It is your responsibility to educate physicians on the importance of their participation with CDI and the accuracy of their documentation.

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FY 2019 FINAL HOSPITAL-ACQUIRED CONDITIONS (HACs)

What's important? It is the diagnosis, present on admission (POA) status, and whether or not the hospital caused the condition. It is the job of the CDS to best clarify all conditions as POA or not POA.

Below is a general description of the fiscal year (FY) 2019 HACs list. A list of all CCs/MCCs and codes related to each HAC can be found at: *https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalAcqCond/icd10_hacs.html.*

HACs	ICD-10-CM General Description How does this affect CDI and coding?
Foreign object retained after surgery	Foreign body accidentally left during a procedure, not elsewhere classified (NEC) Acute reaction to foreign substance accidentally left during a procedure, not elsewhere classified
Air embolism	Air embolism as a complication of medical care
Blood incompatibility	Unspecified ABO incompatibility reaction ABO incompatibility with hemolytic transfusion reaction not specified as acute or delayed ABO incompatibility with acute hemolytic transfusion reaction ABO incompatibility with delayed hemolytic transfusion reaction ABO incompatibility reaction
Stage III and IV pressure ulcers • Not POA • Developed during hospitalization • This is NOT considered POA	Pressure ulcer stage III Pressure ulcer stage IV
Falls and trauma that occur during the patient's stay: • Fracture • Dislocation • Intracranial Injury • Crushing Injury • Burn • Other Injuries	Multiple codes, multiple categories
Manifestations of poor glycemic control that develop during the patient's stay: • Diabetic ketoacidosis • Nonketotic hyperosmolar coma • Hypoglycemic coma • Secondary diabetes with ketoacidosis • Secondary diabetes with hyperosmolarity	DM II or unspecified with diabetes ketoacidosis (DKA) DM I with DKA DM II, uncontrolled, with DKA DM I, uncontrolled, with DKA DM II with hyperosmolarity DM I with hyperosmolarity DM II, uncontrolled, with hyperosmolarity DM I, uncontrolled, with hyperosmolarity Hypoglycemic coma Secondary DM with ketoacidosis Secondary DM with hyperosmolarity Secondary DM, uncontrolled, with hyperosmolarity

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HACs	ICD-10-CM General Description How does this affect CDI and coding?
Catheter-associated urinary tract infection (CAUTI) **Not stated as "POA" and/or develops during admission secondary to a catheter.*	Infection and inflammatory reaction due to indwelling urinary catheter *Excludes the following from acting as a CC/MCC: • Candidiasis of urogenital site • Acute pyelonephritis w/out lesion of renal medullary necrosis • Acute pyelonephritis with lesion of renal medullary necrosis • Renal and perinephric abscess • Pyeloureteritis cystica • Pyelonephritis, unspecified • Pyelitis or pyelonephritis in diseases classified elsewhere • Acute cystitis • Urethral abscess • UTI, site not specified
Vascular catheter-associated infection	Infection due to CVC Bloodstream infection due to CVC Local infection due to CVC
Surgical-site infection, mediastinitis, following CABG	Mediastinitis
Surgical-site infection following bariatric surgery for obesity: • Laparoscopic gastric bypass • Gastroenterostomy • Laparoscopic gastric restrictive surgery	Principal diagnosis: morbid obesity Infection due to gastric-band procedure Infection due to bariatric procedure Other postoperative infection
Surgical-site infection following certain* orthopedic procedures: • Spine • Neck • Shoulder • Elbow	Infection and inflammatory reaction due to other internal orthopedic device/implant/graft Other postoperative infection
Surgical-site infection following cardiac implantable electronic device (CIED)	Infection and inflammatory reaction due to cardiac device/implant/graft Other postoperative infection
Deep vein thrombosis (DVT) and pulmonary embolism (PE) following certain orthopedic procedures: • Total knee replacement • Hip replacement	Iatrogenic PE and infarction Saddle embolus of pulmonary artery PE and infarction Acute venous embolism and thrombosis of unspec deep vessels of lower extremity Acute venous embolism and thrombosis of unspec deep vessels of distal lower extremity
Iatrogenic pneumothorax with venous catheterization	Iatrogenic pneumothorax

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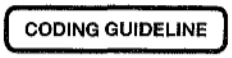
INTRODUCTION TO MDCs AND MS-DRGs

The following portion of your CDI training manual includes information regarding the major diagnostic categories (MDCs) and Medicare-severity diagnosis-related groups (MS-DRGs). It is laid out logically by body system. The following is included in each chapter:

- Clinical information for frequent CDI topics
- Principal diagnosis information (if applicable)
- *Coding Clinics* and guidelines 

- Concepts to consider cautious

- High-risk MS-DRGs

- Frequent CCs, MCCs, and severity drivers to consider for query opportunities
- Case studies.

Case studies are provided at the end of each chapter to reinforce the information learned throughout the chapter. After completion of the case studies, the instructor will walk students through the case studies and use grouper software to reveal the effects of coding documentation opportunity.

WHAT IS A "HIGH-RISK" MS-DRG?

There are several reasons a record could be at high risk for audit, including one or more of the following.

- It is a "symptom" MS-DRG.
- It is a stand-alone MS-DRG.
- It is a MS-DRG that may not meet inpatient criteria.

Several high-risk MS-DRGs will be identified as you are going through this guide with your instructor. When you see that a MS-DRG is at high risk, you should ask yourself "Why?" Is it a symptom MS-DRG that needs clarification with a query? Is it a low-weighted MS-DRG due to nonspecific documentation that may require a query? Use your critical thinking skills to establish the "why" behind this high-risk MS-DRG and what, if anything, may be done to get out of it.

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THREE-STEP APPROACH

A way to approach CDI and query opportunities is with a three-step method:

- Clinical indicators
- Risk factors
- Treatment.

If these are not present, you would not be sending a query to the provider. Throughout the next pages, you will see the following for many topics.

You may see these frequently throughout documentation, and they **may or may not** apply to your patient. Having these presented in such a way allows the learner to better understand the purpose and reasoning behind a query and helps to better present query content.

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MDC 1: DISEASES AND DISORDERS OF THE NERVOUS SYSTEM

ALTERED MENTAL STATUS

Altered mental status (AMS) is a **symptom** that almost always needs to be clarified. It is standard medical jargon that you will find frequently documented through records with no clear explanation as to cause and often without a clarifying diagnosis. It is not a CC or MCC and often does not reflect the SOI or intense resources needed to care for these patients. For example:

- The elderly woman who is briefly confused in the ER and who is pleasant
- The young man who overdosed who had to be moved closer to the nursing station
- The old man who is hitting and biting people and requires restraints, a vest, and IV Haldol

Patients like these patients require tremendous amounts of care, and their AMS extends their hospital stay by multiple days. If it appears that your patient is experiencing something more serious or specific than AMS—and it meets the definition of secondary diagnosis—consider querying. Some alternatives to AMS include:

- Encephalopathy
- Acute delirium
- Drug-induced delirium
- Acute confusional state
- Dementia with behavioral disturbance
- Hallucinations
- Coma.

MS-DRG 948—Signs and Symptoms without MCC

WHAT IF AMS IS YOUR PRINCIPAL DIAGNOSIS?

It is very rare that AMS will end up being your PDX. However, if it does, you will be taken to high-risk MS-DRG 948—signs and symptoms without an MCC. Even the name alone sounds high-risk! If you see this developing in the record you are reviewing, consider querying for a cause or explanation of the AMS.

ENCEPHALOPATHY

The definition of **encephalopathy** is "disease, damage, or malfunction of the brain. In general, encephalopathy is manifested by an *altered mental state* that is sometimes accompanied by physical changes. Although numerous causes of encephalopathy are known, the majority of cases arise from infection, liver damage, anoxia, or kidney failure…depending upon the cause and severity of the condition, symptoms may range from mild alterations in mental status to severe and potentially fatal manifestations." (MedicineNet, 2015)

A significant indicator for encephalopathy is that it improves once the cause is corrected. It is also not a minor condition; this patient's confusion will not easily be corrected with 2L of oxygen. These patients require substantial care that is more than a "normal" patient requires. Here are some possible clinical indicators, risk factors, and treatments this patient may be experiencing.

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Possible Clinical Indicators: AMS, confusion, disorientation, performing activities that are unsafe and that the patient would not usually perform, aggressive and/or violent behavior, hitting and/or biting, "not acting like themselves," changed or changing Glasgow coma scale (GCS) score, dementia patients "much worse than their baselines"

Possible Risk Factors: Current illness (particularly infection, sepsis, liver disease, hypoxia, or cardiac arrest), severe electrolyte disturbances, history of dementia, nursing home or long-term acute care (LTAC) resident, cancer, malnutrition, history of alcoholism or other drug abuse

Possible Treatment: IV medications (Haldol, Ativan), scans (head CT, brain MRI), moving the patient closer to the nursing station, restraints, withholding any altering medications (such as those for pain), oxygen, having a sitter at the bedside, correcting any electrolyte disturbances, and treating the current illness

Providers and CDI staff frequently receive the following question from coding professionals: "Can my patient have both a dementia and an encephalopathy?" The answer: Yes, your patient may possibly have both. If a demented patient always recognizes his or her spouse and children and knows their favorite show comes on Tuesdays at 6 p.m., and all of a sudden doesn't recognize their family and is **much more confused than baseline**, this could possibly be an encephalopathy. If the patient receives treatment, and they return to his or her baseline, this could be an encephalopathy.

ICD-10: Encephalopathy

Diagnosis	Code(s)	CC or MCC?
Alcoholic encephalopathy with associated alcohol abuse	G31.2, F10.10	-
Post-radiation encephalopathy (codes to "other specified disorders of the brain")	G93.89	-
Hypertensive encephalopathy	I67.4	CC
Hypoxic encephalopathy/anoxic brain damage	G93.1	CC
Wernicke's encephalopathy	E51.2	CC
Encephalopathy (toxic) due to drug (specify drug)	G92, T******	MCC
Metabolic encephalopathy	G93.41	MCC
Toxic encephalopathy	G92	MCC
Septic encephalopathy (codes to metabolic encephalopathy)	G93.41	MCC
Encephalopathy, unspecified	G93.40	CC
Delirium, unspecified (codes to disorientation)	R41.0	-
Delirium, postoperative	F05	CC
Confusion (codes to disorientation)	R41.0	-
Altered mental status	R41.82	-
Hallucinations, unspecified	R44.3	CC
Dementia with behavioral disturbance	F03.91	CC

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COMA

CAUTION

A **coma** is defined as a deep state of unconsciousness in which a patient is unable to or cannot respond to verbal or tactile stimuli. They cannot open their eyes, obey commands, or speak understandable words. There are several causes of coma, the most frequent of which include trauma and cardiac arrest. You often will see terms like "patient obtunded" or "patient in a stupor" in the documentation. These are symptoms and refer to non-comatose levels of unconsciousness. Documentation of coma is frequently forgotten; however, this coma is often a severity driver that needs to be identified, particularly in patients who could possibly expire. Comatose patients can wake up but many of them go on to expire. The definition of a coma is a Glasgow Coma Scale (GCS) score of **less than or equal to 8.**

Encephalopathy can be a high-risk diagnosis post-discharge.

*Encephalopathy is a high-risk diagnosis by auditors. It has been under scrutiny for being over-documented and/or fraudulently queried (much like severe protein-calorie malnutrition). Because of this, be sure that your query is **strong** and that your patient meets criteria for this diagnosis, which can often be difficult due to the broad definition of the concept.*

Glasgow Coma Scale		
Behavior	**Response**	**Score**
Eye Opening Response	Spontaneously To speech To pain No response	4 3 2 1
Best Verbal Response	Oriented to time, place, and person Confused Inappropriate words Incomprehensible sounds No response	5 4 3 2 1
Best Motor Response	Obeys commands Moves to localized pain Flexion withdrawal from pain Abnormal flexion (decorticate) Abnormal extension (decerebrate) No response	6 5 4 3 2 1
Total Score	Best Response **Comatose Client** Totally Unresponsive	15 **8 or less** 3

A GCS score can be captured in ICD-10. Some of the scores are MCCs. However, these scores can help prove that coma is a legitimate diagnosis and worthy of capturing and final coding. Documentation of coma is also an MCC.

The National Institute of Health Stroke Scale (NIHSS) should be reported for patients who have a stroke (I63.-). This code is reported with subcategory R29.7-. The *2019 Official Guidelines for Coding and Reporting* state that the coder may utilize other clinician documentation to report this scale. The code also supports the seriousness of the stroke.

CODING GUIDELINE **AHA CODING CLINIC FOR ICD-10 (1ST Q ICD-10 2014, PAGES 19-20)**

GCS SCORING "IN THE FIELD"

ICD-10-CM provides codes to identify the Glasgow coma scale (GCS) score. When the patient presents with a traumatic brain injury (TBI), these codes are used in conjunction with the specific codes describing the TBI.

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QUESTION: If the emergency medical technician (EMT) documents the patient's initial GCS score in the field, can the EMT's documentation be used? Coders are concerned that there is no official advice or guideline that allows use of non-physician documentation for the Glasgow coma scores. These scores are typically documented by personnel other than physicians. What documentation can be used for determining the ICD-10-CM Glasgow coma score code?

ANSWER: It would be appropriate to use the pre-hospital report containing the EMT's documentation, and other non-physician documentation to determine the Glasgow coma score.

ICD-10: Coma		
Diagnosis	**Code(s)**	**CC or MCC?**
Coma, unspecified (include any associated skull fracture or intracranial injury present)	R40.20	MCC
Hepatic coma, acute	K72.01	MCC
DKA with diabetic coma	E13.11	MCC
Myxedema coma	E03.5	MCC
Persistent vegetative state	R40.3	CC
Unconsciousness, NOS* **New classification in ICD-10. Be careful with this documentation.*	R40.20	MCC
Stupor, semicoma, somnolence	R40.1, R40.0	-

CEREBRAL EDEMA AND BRAIN COMPRESSION

"MASS EFFECT" AND "MIDLINE SHIFT"

There are many disease processes that result in cerebral edema and brain compression, including trauma, stroke, hemorrhage, and tumors. Both cerebral edema and brain compression consist of brain swelling that is caused by some type of intracranial pressure. This swelling can prevent blood from flowing to the brain, which deprives it of the oxygen it needs to function. It can also block fluids from leaving the brain and cause shifts in the ventricles (often referred to as a "midline shift" or "mass effect" on CT or MRI). Death will result if it is severe, and the patient does not receive immediate intervention. Symptoms include some type of alteration of consciousness, speech problems, severe headache, and possibly uneven pupil size.

You may see this documented as "mass effect" or "midline shift," often only in CT or MRI findings. It may never be mentioned in the documentation. This diagnosis is crucial to capture, as these patients are extremely ill and this is a vast severity driver. These terms not only do not accurately describe the severity of your patient but also **codes do not exist for midline shift or mass effect.**

Possible Clinical Indicators: "Midline shift" or "mass effect" on CT or MRI, altered mental status, severe headache, speech issues, coma

Possible Risk Factors: Cerebral trauma or infarction/hemorrhage, abscess, tumor, sepsis, hypoxia

Possible Treatment: High-dose IV steroids ("gold standard" for treatment) often IV decadron, corticosteroids, hypertonic saline, mannitol, hyperventilation, keeping the head at 30°, possible hypothermia, or placement of a drain or other surgical intervention with ICP monitoring

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ICD-10: Cerebral Edema and Brain Compression			
Diagnosis	Code(s)	CC or MCC?	SOI/ROM Score
Cerebral edema	G93.6	MCC	4/4
Cerebrospinal edema	G93.6	MCC	4/4
Cerebral edema, traumatic, no loss of consciousness	S06.1X0A	MCC	2/1
Compression of brain/brain compression Arnold-Chiari type 1 compression of brain Compression of brain (stem) Herniation of brain (stem)	G93.5	MCC	4/4
Vasogenic edema (Assign code for edema; "vasogenic" is a nonessential modifier.)	G93.6	MCC	4/4

CODING GUIDELINE

If a patient experiences a traumatic brain injury (due to hemorrhage, fracture, etc.), do not code brain compression as a secondary diagnosis. It is assumed to be part of the disease process or condition. **This means that, even if your patient has this as a secondary diagnosis, it will not code; therefore, it will not be an MCC.**

TIA AND CVA

IS IT REALLY "JUST" A TIA? WHY DOES IT MATTER?

The differences between a TIA and a CVA may seem clinically inconsequential; they are treated very similarly in the hospital. However, when it comes to coding, TIA and CVA could not be more different. Also MS-DRG (069) (for TIA) is at very high risk for not meeting inpatient criteria on second-level review and may be denied payment.

Principal Diagnosis	MS-DRG	Relative Weight	GMLOS	SOI/ROM
TIA	Transient Ischemia (MS-DRG 069)	0.7655	2.1 days	1/1
CVA	Intracranial Hemorrhage or Cerebral Infarction w/out CC/MCC (MS-DRG 066)	0.7268	2.3 days	1/1
CVA, hemiplegia	Intracranial Hemorrhage or Cerebral Infarction with CC (MS-DRG 065)	1.0315	3.1 days	2/1
CVA and acute resp failure	Intracranial Hemorrhage or Cerebral Infarction with MCC (MS-DRG 064)	1.8692	4.4 days	3/3

Regarding TIA, the biggest clinical conundrum that a CDI specialist will come across is the documentation in the record vs. the patient's clinical picture. A provider may document that a patient is having a TIA when the symptoms have lasted longer than 24 hours. **This is no longer a TIA; this is a stroke.** If this is the case, the CDS must query.

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Unfortunately, due to poor documentation or simple copy-and-pasting errors, many patients who have experienced a CVA end up with a final code for TIA. If a patient is "just" having a TIA, they should not require inpatient care. This is made clear by CMS assigning the TIA MS-DRG to a very low relative weight (see above), which is why we are assigning it to the "high- risk" MS-DRG category.

TIA	CVA
Symptoms last < 24 hours. Patients recover from these events; some patients don't know they are having them. These patients should not require an inpatient level of care.	**Symptoms last > 24 hours and are not transient**, often leaving the patient with permanent disabilities. These patients often require the ICU and are often discharged to rehab secondary to disabilities.
No residual brain or neuro damage	Residual brain/neuro damage, numerous deficits, often require querying
Often no findings on CT and/or MRI	Findings on CT/MRI (often, but not always) MRI is the definitive imaging to identify CVA.

When a patient is having a CVA/stroke, and it is well-documented, there are many documentation concepts that are often overlooked by providers. Below are frequent diagnoses that a CDS may need to investigate for increased specificity.

ICD-10: Effects/Deficits from Stroke (Secondary Diagnoses)		
Diagnosis	**Code(s)**	**CC or MCC?**
Aphasia	R47.01	CC
Ataxia	R27.0	-
Cerebral edema	G93.6	MCC
Coma, unspecified	R40.20	MCC
Convulsions	R56.9	-
Dysphagia, dysphasia	R13.10, R47.02	-
Encephalopathy, unspecified	G93.40	CC
Hemianopia, hemianopsia	H53.47	-
Hemiplegia, hemiparesis, hemiparalysis	G81.90	CC
Locked-in state	G83.5	MCC
Monoplegia	G83.30	-
Neurologic neglect syndrome	R41.4	CC
Persistent vegetative state	R40.3	CC
Quadriplegia, unspecified	G82.50	MCC
Vascular syndrome of brain	G46.8	-

CODING GUIDELINE ***AHA CODING CLINIC FOR ICD-10* (1ST Q ICD-10 2015, PAGE 25–26)**

CVA AND RESIDUAL "WEAKNESS"

QUESTION: A patient is admitted due to a cerebral infarction. In the DC summary the provider writes, "Acute cerebral infarction involving the R hemisphere with left-sided (nondominant) weakness." How should this be coded when there is no specific mention of hemiplegia/hemiparesis?

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ANSWER: Assign code I63.9, Cerebral infarction, unspecified, as the principal diagnosis. Assign code G81.94, Hemiplegia, unspecified affecting left nondominant side, as an additional diagnosis. When unilateral weakness is clearly documented as being associated with a stroke, it is considered synonymous with hemiparesis or hemiplegia. Unilateral weakness outside of this clear association cannot be assumed as hemiparesis or hemiplegia, unless it is associated with some other brain disorder or injury. **Note:** The "weakness" must be associated or linked with the CVA.

HEMIPLEGIA S/P CVA THAT RESOLVES

QUESTION: Does the advice from *Coding Clinic*, First Quarter 2010, page 5, regarding the coding of neurologic deficits caused by CVA *even when they have resolved at the time of discharge from hospital* hold true for ICD-10-CM as well?

ANSWER: Hemiplegia is not inherent to an acute cerebrovascular accident (CVA). Therefore, it should be coded even if the hemiplegia resolves, with or without treatment. The hemiplegia affects the care that the patient receives. Report any neurological deficits caused by a CVA even when they have been resolved at the time of discharge from the hospital.

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (1ST QTR. ICD-10 2015, PAGE 25)

QUESTION: HISTORY OF ACUTE CVA WITH RESIDUAL WEAKNESS

Patient admitted to the hospital because of GI bleed. The provider documented that the patient had a history of **acute cerebral infarction with residual right-sided weakness** (dominant side), and ordered an evaluation by PT/OT. What is the appropriate code assignment for residual right-sided weakness, resulting from an old CVA without mention of hemiplegia/hemiparesis?

ANSWER: Assign code I69.351, Hemiplegia and hemiparesis following cerebral infarction, affecting right dominant side, for the residual right-sided weakness due to cerebral infarction. When unilateral weakness is clearly documented as being associated with a stroke, it is considered synonymous with hemiparesis or hemiplegia.

UPDATE: Per *Coding Clinic*, First Quarter 2017, pages 47–48, weakness of a single extremity due to a previous CVA would be coded as "monoplegic following a cerebral infarction" when a relationship is clearly documented.

Listed below are the questions the CDS needs to ask in order to determine whether a query is needed.

1. **Has a TIA or a CVA/stroke been designated?** If it appears as though your patient may be having a stroke, but only a TIA is documented, you may consider querying.
2. **If your patient is having a stroke, what type of stroke are they having?**
   - Embolic
   - Due to occlusion/stenosis/thrombosis
   - Hemorrhagic
   - Intraoperative or postoperative
3. **Did they receive TPA (tissue plasminogen activator) here? Or at an outside hospital?**

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4. **Where is it located?**
   - Cerebral artery, precerebral artery along with further specificity of artery and laterality
   - Intracerebral: brain stem, cerebellum, deep, hemisphere, intraoperative, intraventricular, lobe, multiple localized, traumatic/diffuse
   - Intracranial: epidural, extradural, subarachnoid, subdural

5. **Are there any deficits?** See above boxes for possible clarification diagnoses.

All of these concepts work together to outline the best CVA MS-DRG for your patient.

DOMINANT AND NON-DOMINANT

***ICD-10-CM Official Guidelines for Coding and Reporting* (Chapter 6: Diseases of the Nervous System)**

Codes from category G81, Hemiplegia and hemiparesis, and subcategories G83.1, Monoplegia of lower limb, G83.2, Monoplegia of upper limb, and G83.3, Monoplegia, unspecified, identify whether the dominant or non-dominant side is affected. **Should the affected side be documented, but not specified as dominant or non-dominant, and the classification system does not indicate a default, code selection is as follows:**

a. For ambidextrous patients, the default should be dominant.
b. If the left side is affected, the default is non-dominant.
c. If the right side is affected, the default is dominant.

VASOGENIC EDEMA AND CT/MRI FINDINGS: COMPLIANT QUERY EXAMPLE

Clinical Scenario: CT/MRI findings of "severe vasogenic edema" with no correlating diagnosis in the documentation.

Can you further specify if we are treating this patient for one of the following diagnoses?

- Cerebral edema
- Brain compression
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Brain tumor s/p removal, "mass effect, on IV decadron" documenting in PNs, RN GCS score 9

Risk Factors: Brain cancer

Treatment: IV decadron (several doses), multiple CT/MRI scans, neuro monitoring (ICU level of care)

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

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MDC 1: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to these diagnoses nor is this a comprehensive list of severity drivers, CCs and MCCs

The diagnoses below are simply common severity drivers, CCs, and MCCs that are frequently found in the Neuro chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute**"! **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity Drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Alzheimer's disease Dependence on supplemental O2 Dysphagia	Electrolyte/fluid disorder Failure to thrive, Adult head injury Hypotension	Multiple Sclerosis Myopathy Nutritional deficiency Parkinson's disease
Frequent CCs * **Remember: A CC is a secondary diagnosis. *A principal diagnosis cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC. **** **Note:** With the FY19 update, a PDX may not act as it's own CC. **Secondary Diagnosis (SDX)**	Acute kidney injury/acute renal failure Adult or child maltreatment (unspecified, neglect, physical or sexual abuse) Anoxic brain Injury/Damage Aphasia Bacteremia BMI 19 or less , BMI > 40 (**with linked** diagnosis – underweight, morbid obesity) Cachexia/Emaciated Dementia with behavioral disturbance Depression, major/acute, mild, moderate, recurrent Drug-induced delirium Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Hallucinations	Hemiplegia/Hemiparesis [s/p CVA] Malnutrition—protein-calorie (mild, moderate, unspecified) Mental retardation or intellectual disabilities, specified profound or severe Neurogenic bowel Obesity hypoventilation syndrome Paraplegia Respiratory distress, acute Respiratory failure, chronic Schizophrenia, chronic undifferentiated Schizophrenia, paranoid type Senile dementia with delirium Shock, postoperative, unspecified Shock, unspecified SIRS, noninfectious without acute organ dysfunction Suicidal ideation TIA (as SDX)	
Frequent MCCs * Remember: **An MCC is a secondary diagnosis. *A principal diagnosis cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC (major comorbid condition).**** **Note:** With the FY19 update, a PDX may not act as it's own MCC. **Secondary Diagnosis (SDX)**	Acute renal failure w/ ATN Acute respiratory failure, acute-on-chronic respiratory failure Brain death Cerebral edema Cerebral hemorrhage Coma** CVA or stroke (as SDX) Encephalopathy (metabolic, toxic, septic) End-stage renal disease (ESRD) Hepatic coma Hepatic encephalopathy (*acute/subacute)	Malnutrition – Protein-Calorie (severe, nutritional marasmus) Myasthenia gravis with acute exac Neuroleptic malignant syndrome Pneumonia – all (Including aspiration PNA) Pressure ulcer stages 3 and 4 (If not POA, will code to a HAC) Quadriplegia, functional Quadriplegia Sepsis, severe sepsis, septic shock (as SDX) Shock—Neurogenic Shock liver/acute liver failure with or without coma SIRS—noninfectious with acute organ dysfunction	

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MDC 1: CASE STUDIES

CASE STUDY 1

81 y/o female patient presents to the ER with her daughter, who states she has foul-smelling urine with incontinence and confusion and states "this is all very unlike Mom." After work-up it is revealed she has sepsis 2/2 to a UTI. Per RN documentation, during her second night in the hospital, she pulls out all of her IVs and refuses to stay in bed. She also begins to use foul language and hit the nursing staff. Soft wrist restraints are applied and 2 doses of 2.5mg IV Haldol is given after IV access is reestablished.

You see the following documentation:

PROBLEMS:

1) Sepsis secondary to UTI. On appropriate antibiotics.

2) Confusion. Per nursing she was pretty aggressive last night. Think this will clear once her infection improves. CTM, keeping Haldol PRN ordered as well as Ativan. Updated restraint orders this am. Per daughter no dementia at baseline but not sure.

3) HTN. CTM, PO metoprolol daily and IV PRN.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

32 y/o male presents via ambulance to the ER s/p syncopal episode. It is determined he has been abusing steroids, working out strenuously, and his wife says, "I thinks he drinks about 5 of those energy drinks a day." Per MRI he has had a CVA, no bleeding. Per nursing documentation you see multiple GCS scores of 7–8 documented on hospital days one and two with total ICU care, then slightly improving scores up to 9 and 10 on the following days. Today is hospital day three, and you read the following documentation from yesterday:

PROBLEMS:

32 y/o male, rate CVA, likely combination of genetic predisposition, steroid use, and energy drinks (consumption very large per wife). Remains obtunded. Outlook tenuous and discussing with family. If he does wake a little more, may consider rehab. Continue to assess on a day-by-day basis.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 3

76 y/o male presents to the ER with left-sided weakness on Christmas eve. After your review of him the day after Christmas, you realize he has not been reviewed by UR or case management and still has an order for observation status. You make appropriate phone calls to help correct this oversight. While going through documentation, you read the following on hospital day three (today):

PROBLEMS:

1) 76 y/o male with TIA. Right-sided weakness continues and patient requires help from nursing to do all ADLs.

2) History of HTN and CHF. Both appear stable right now, allowed permissive HTN hospital day one.

3) Unable to contact family.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 4: DISEASES AND DISORDERS OF THE RESPIRATORY SYSTEM

PNEUMONIA

DO BUGS MATTER?

Pneumonia is an infection-causing inflammation and exudate that consolidates in the lung tissue. When the causative agent is complex or due to aspiration, the treatment is more intensive, which results in increased utilization of resources.

As a principal diagnosis, complex pneumonias shift to a higher weighted MS-DRG reflecting higher SOI and ROM scores. Pneumonia as a secondary diagnosis is most often a MCC, regardless of the etiology.

One of the biggest, and frequently overlooked, CDI query opportunities arrives when only "pneumonia" is documented. If it is the only documentation in the record and is the principal diagnosis, this will code to one of the simple pneumonia MS-DRGs (195, 194, or 193). However, physicians regularly are treating a higher level of pneumonia with complex antibiotics and are simply not documenting it.

SIMPLE PNA (MS-DRGs 193–195 ➡ SIMPLE PNEUMONIA)

- Pneumonia unspecified, streptococcus pneumonia, unspecified bacterial pneumonia, gram-positive pneumonia, atypical pneumonia, community-acquired pneumonia (CAP), health-care-acquired pneumonia (HCAP), viral pneumonia
- Antibiotics may include Rocephin, Zithromax, Levaquin, Avelox.

COMPLEX PNA (MS-DRGs 177–179 ➡ RESPIRATORY INFECTIONS AND INFLAMMATIONS, "COMPLEX PNEUMONIA")

- Pseudomonas pneumonia, E. Coli pneumonia, Klebsiella pneumonia, enterobacter pneumonia, gram-negative pneumonia, fungal pneumonia, MRSA pneumonia, pneumonia due to anaerobes, staphylococcus pneumonia
- Antibiotics may include IV Clindamycin, Flagyl, Gentamycin, Ciprofloxin, Vancomycin, Zyvox.
  - Providers believe when they use terms like "HCAP" that they are providing increased specificity. They need to be educated that this is not the case and that HCAP codes to a simple pneumonia and often does not appropriately reflect a patient's SOI, LOS, or the resources utilized to care for them.

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ASPIRATION PNA (MS-DRGs 177–179 ➡ RESPIRATORY INFECTIONS AND INFLAMMATIONS, "COMPLEX PNEUMONIA")

Risk Factors and Facts for Aspiration Pneumonia:

- Debilitated, bed confined
- Often found in the RLL
- Recent vomiting/nasogastric (NGT) placement
- Alcohol abuse
- Dysphagia (look for swallow studies)
- Antibiotics may include IV Flagyl, Clindamycin, Zosyn

CAUTION

Another occasional CDS finding may be documentation of "infiltrate on CXR, treat with antibiotics," or "opacity seen in RLL, start Rocephin." Terms like **infiltrate, opacity,** or **haziness** do not code to pneumonia! If you see documentation like this, ensure that you query and ask your physician if he or she is treating pneumonia.

Possible Clinical Indicators: Fever, low blood oxygen saturation (Sp02), worsening cough with/without sputum production, leukocytosis (possibly normal wbc in the debilitated or elderly), chest X-ray (CXR) showing patchy infiltates or consolidations, dyspnea, chest pain, possible confusion

Possible Risk Factors: Gram negative PNA: Immunosuppression, COPD, nursing home residents, recent oupatient treatments at clinics or treatment centers, failing outpatient oral antibiotics. Aspiration PNA: debilitated, vomiting, high output nasogastric (NGT) or NGT insertion, dysphagia, gastroesophageal reflux disease (GERD), alcohol abuse, debilitated

Possible Treatment: Oxygen therapy, IV fluids, first-line IV antibiotics (ABX) (Azithromycin, Rocephin), second-line IV ABX (Clindamycin, Zosyn, Flagyl, Vancomycin), bronchodilators, serial labs , CXRs, arterial blood gases (ABGs)

It may take as long as three days for a pneumonia to appear on CXR in a dehydrated patient.

PNEUMONIA AS PRINCIPAL DIAGNOSIS

Look at the higher relative weight for the complex pneumonia MS-DRGs.

Principal Diagnosis	MS-DRGs	RW	GMLOS	SOI/ROM
PNA due to other streptococci	195 Simple Pneumonia & Pleurisy w/o CC/MCC	0.6868	2.6	1/1
PNA due to other streptococci with chronic respiratory failure	194 Simple Pneumonia & Pleurisy w/ CC	0.9002	3.3	2/1
PNA due to other streptococci with acute hypoxic respiratory failure	193 Simple Pneumonia & Pleurisy w/ MCC	1.3167	4.2	3/3
PNA due to gram- negative bacteria	179 Respiratory Infections & Inflammations w/o CC/MCC	0.9215	3.2	1/1

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Principal Diagnosis	MS-DRGs	RW	GMLOS	SOI/ROM
PNA due to gram- negative bacteria with chronic respiratory failure	178 Respiratory Infections & Inflammations w/CC	1.2744	4.3	2/1
PNA due to gram- negative bacteria with acute hypoxic respiratory failure	177 Respiratory Infections & Inflammations w/ MCC	1.8408	5.5	3/3

TIPS FOR GETTING PNEUMONIA RIGHT

- Physician documentation should be very specific to the causative agent of PNA. **The terms "suspected," "likely due to," and "probable" are acceptable if noted at the time of discharge.**
  - NO: "HCAP due to atypical source, treating with Vancomycin and Gentamycin."
  - YES: "HCAP due to probable gram-negative bacteria, treating with IV ABX, per discharge summary."
  - If the sputum culture or gram stains show presence of gram-negative bacteria, definitive documentation must be provided by the physician in order for gram negative pneumonia to be coded. It means that a coder cannot infer from a physician's documentation of "pneumonia" and a sputum culture finding of "E. Coli in sputum" that the patient has E. Coli pneumonia. The physician must document this.
- Remember: Symptoms and treatment of simple and complex pneumonia are very similar, EXCEPT for antibiotic choices!
- When aspiration pneumonia is specified as post-procedural, it loses the impact of MCC and becomes a CC and is excluded from the severity/risk calculation due to complication of care.

RESPIRATORY FAILURE

Respiratory failure is the inability of the lungs to perform adequate gas exchange resulting in inadequate oxygenation and/or carbon dioxide elimination.

Acute Respiratory Failure (Hypoxic, Hypercapnic, Combination, or Unspecified):

- Hypoxemic (p02 < 60 mmHg, Sp02 </= 88% on RA, or 02 supplement to maintain pulse ox > 92%)
- Hypercapnia with acidosis (pC02 >50, pH <7.35)
- Usually sudden onset or evolves over a relatively short period of time
- Blood-gas impairment accompanied by tachypnea, dyspnea, shortness of breath, or use of accessory muscles (A patient does not have to be on a mechanical ventilator to be diagnosed with this!)
- This diagnosis, which significantly impacts the risk and severity score, is an MCC.

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Acute-on-Chronic Respiratory Failure (Hypoxic, Hypercapnic, Combination, or Unspecified):

- The pH of the patient with chronic failure will be normal, and baseline level of dyspnea on exertion, orthopnea, shortness of breath will be at baseline. An exacerbation, or superimposed acute state of failure, will be noted by increased symptoms from baseline.

Chronic Respiratory Failure (Hypoxic, Hypercapnic, Combination, or Unspecified):

- Hypercapnia, normal pH (possibly chronically low p02 is coexisting), often BMP CO2 elevation
- Develops over longer periods of time (months to years) and is often associated with COPD and other end-stage lung diseases
- Home oxygen use
- This diagnosis contributes significantly to the risk and severity score and is a CC.

Possible Clinical Indicators: Patient on 02 with P02 <70 or Sp02 <90%, Fi02 >40% (5L/min), pH less than 7.35, dyspnea, shortness of breath (SOB), labored breathing, tachypnea, use of accessory muscles, retractions, cyanosis, diaphoresis, pallor, escalating oxygen requirements due to decreasing saturations, confusion, requiring invasive/non-invasive mechanical support

Possible Risk Factors: COPD, chronic obstructive bronchitis, asthma, interstitial lung disease, pneumonia, CHF, obesity hypoventilation syndrome, pulmonary .edema, advanced age

Possible Treatment: Oxygen (via NC, mechanical ventilation, bilevel positive airway pressure (BIPAP), escalating oxygen liter flow, bronchodilators, respiratory therapy (inhalers/nebulizers), treating the offending diagnosis (PNA, CHF, etc.)

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A PAO2/FIO2 RATIO ("P/F RATIO") < 300 = PROBABLE ACUTE RESPIRATORY FAILURE

How do you find a patient's P/F ratio? Fortunately there are two simple formulas:

- **No ABG Available:** The SPo2 translated into a PO2 divided by the FiO2 as a decimal (see charts)
- **ABG Available:** The arterial PO2 from the ABG divided by the FiO2

Example: On room air, a patient's O2 sat is 85%. What is his P/F ratio?

50 ÷ 0.2 = 250

Consider respiratory failure.

Example: A patient's PO2 on ABG is 70 while on 6L of oxygen in the ER. She wears oxygen at home. What is her P/F ratio?

70 ÷ 0.44 = 159

Likely acute on chronic respiratory failure

What room air, p02, or Sp02 are not available:

- If patient on 02 with P02 <70 or Sp02 <92% or
- Fi02 >40% (5L/min)

Method	02 Flow (L/Min)	Estimated Fi02 (%)
Room Air	0	20%
Nasal cannula	1	24%
	2	28%
	3	32%
	4	36%
	5	40%
	6	44%
Face mask	5	40%
	6-7	50%
	7-8	60%
Face mask w/reservoir	6	60%
	7	70%
	8	80%

Tips:

- **Both respiratory difficulty (dyspnea/SOB/ labored breathing) AND low Sp02 or p02 are needed to meet criteria for acute respiratory failure.**
- Bradypnea may be an indicator when the patient is no longer able to compensate in acute respiratory failure.
- Review the ER record and investigate initial RA Sp02 and any interventions.
- Acute respiratory distress loses the weight of the CC when the principal diagnosis is COPD exacerbation (as it is inherent to the disease process).

Sa02 (%)	Pa02 (mmHg)	Sa02 (%)	Pa02 (mmHg)
80	44	**90**	60
81	45	**91**	62
82	46	**92**	65
83	47	**93**	69
84	49	**94**	73
85	50	**95**	79
86	52	**96**	86
87	53	**97**	96
88	55	**98**	112
89	57	**99**	145

Conversion tables – See References.

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WHEN IS RESPIRATORY FAILURE A PRINCIPAL OR SECONDARY DIAGNOSIS?

When the patient is admitted with acute respiratory failure and another acute condition, both equally responsible for necessitating the admission, and when there is no chapter-specific sequencing rules, it is appropriate to code either as the principal diagnosis based on the circumstances. For example, if the co-existing acute condition is diastolic congestive heart failure and the patient responds to immediate IV diuresis and oxygen support, the circumstances of this case suggest that acute respiratory failure is a result of pulmonary volume overload. Chapter-specific coding guidelines also state that, in cases of obstetrics, poisoning, HIV, sepsis and newborns, the respiratory failure would then become a secondary diagnosis. Also, chronic respiratory failure should never be your principal diagnosis (as it is a chronic condition, not acute and not likely to necessitate an inpatient admission except in rare circumstances).

WHAT IF A PATIENT REQUIRED A TRACHEOSTOMY?

The procedure shifts the MS-DRG out of MDC 4 to a pre-MDC MS-DRG.

Principal Diagnosis	MS-DRG	Principal Procedure	RW	GMLOS	SOI/ROM
Acute exac COPD	192	None	0.7241	2.5	1/1
Acute exac COPD w CC	191	None	0.9139	3.1	2/1
Acute exac COPD w MCC	190	None	1.1907	3.8	3/2
Acute exac COPD w/Acute Resp Failure	004	(0B113F4) Percutaneous Tracheostomy, (5A1945Z) Vent 24-96hr (if 96+ soi/rom of 1/1	11.4192	19.5	4/3

DOES IT MATTER HOW LONG MY PATIENT HAS BEEN ON THE VENT?

Yes! Mechanical ventilation is time-driven and can change your MS-DRG.

ICD-10 Ventilation Procedure Codes:

- 5A1935Z—Respiratory ventilation < 24 consecutive hours
- 5A1945Z—Respiratory ventilation 24–96 consecutive hours
- 5A1955Z—Respiratory ventilation > 96 consecutive hours

Example: MS-DRG Shift Based on Vent Time:

871 Septicemia or Severe Sepsis
w/o MV > 96 hrs w/ MCC
(weight 1.8564, GMLOS 4.8)

870 Septicemia or severe sepsis
with MV > 96 hrs
(weight 6.2953, GMLOS 12.4)

CODING GUIDELINE **_AHA CODING CLINIC FOR ICD-10_ (4TH Q ICD-10 2014, PAGES 3–5 AND 8–9)**

QUESTION: When does mechanical ventilation start?

ANSWER: Start counting the duration of mechanical ventilation with one of the following:

- Endotracheal intubation (and subsequent initiation of mechanical ventilation)

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- Initiation of mechanical ventilation through a tracheostomy

or

- At the time of admission of a previously intubated patient or a patient with a tracheostomy who is on mechanical ventilation

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For those patients who are intubated for mechanical ventilation prior to admission, begin counting the duration at the time of admission.

"Weaning" from the ventilator is included in the mechanical ventilation time.

BiPAP and CPAP delivered via a tracheostomy device are coded as mechanical ventilation.

TWO PRIMARY VENTILATOR MS-DRGs

- **MS-DRG 207** – Respiratory System Diagnosis with Ventilator Support > 96 hours
- **MS-DRG 208** – Respiratory System Diagnosis with Ventilator Support < 96 hours

Your patient will only end up in one of these two MS-DRGs if all of the following criteria are met:

1. Their principal diagnosis is from the respiratory chapter (COPD, respiratory failure, etc.).
2. They are placed on mechanical ventilation.

Per coding guidelines, if your patient presents with both sepsis and acute respiratory failure POA and is placed on the ventilator, this patient's PDX will be sepsis. You cannot just choose acute respiratory failure as the PDX because it is a higher-weight MS-DRG.

COMMON QUESTION!

QUESTION: What if my patient has both "hypoxic" and "hypercapnic" respiratory failure documented?

REQUEST FOR CLARIFICATION LETTER 9/1/2015

One of the authors of this book had the same question – so a request for clarification was sent to the American Hospital Association (AHA) online asking the following question.

ICD-10 allows us to code both acute, acute-on-chronic, and chronic respiratory failure with the increased specificity of hypercapnic or hypoxic. What if it is documented that a patient has both ("acute hypoxic & hypercapnic respiratory failure")? Do we code both?

ANSWER: This letter is in response to your request for clarification regarding whether codes for acute respiratory failure with hypoxia may be reported with codes for acute respiratory failure with hypercapnia.

Based on review of category J96, Respiratory Failure, not elsewhere classified, there are no excludes notes that indicate the codes for hypoxia may not be reported with codes for hypercapnia. I trust this information is of assistance to you.

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POSTOPERATIVE RESPIRATORY FAILURE

"The diagnosis of respiratory failure following surgery has profound regulatory and quality of care implications. If identified as "post op," "due to," or "complicating" a procedure, respiratory failure is classified as one of the most severe, life-threatening reportable surgical complications a patient can have. The diagnosis of respiratory failure following surgery often results in a huge payment increase to the hospital—sometimes $20,000 to $30,000 or even more. If improperly diagnosed without firm clinical grounds, it may become the basis for regulatory audits, sanctions or even legal action." (Pinson, ACP, 2015)

Physicians may document "acute respiratory failure in the postoperative period" simply because the patient remains ventilated. If it is documented postoperatively **but not an unexpected outcome/occurrence for that procedure then the respiratory failure should not be coded.**

For example, a patient who presents for a heart transplant or other thoracic surgery may likely require mechanical ventilation support up to 48 hours, and this is normal—NOT "respiratory failure."

The physician needs to clarify the following scenario: A patient meets criteria for respiratory failure following surgery that is a result of a pre-existing medical condition like COPD or other disease process that the patient was at high risk for and likely to go into anyway. Example of the documentation for this is "acute-on-chronic respiratory failure postoperatively, **expected** outcome based on risk factors." For more information on complications, see MDC 21.

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (4TH Q 2014, VOL. 1, NUMBER 4)

QUESTION: In ICD-10-PCS is endotracheal (ET) intubation coded with mechanical ventilation when the patient receives ventilatory support for surgery?

ANSWER: Under **normal** circumstances, mechanical ventilation that is being used during a surgical procedure is not coded separately and neither is the endotracheal intubation. If, however, the patient remains on mechanical ventilation for an extended period (several days) post-surgery, the mechanical ventilation should be reported. Even if the postsurgical patient is not extubated within the expected postoperative time frame, and requires extended mechanical ventilatory support, the ET intubation would not be "retroactively" coded.

RESPIRATORY FAILURE CC/MCC TABLE		
Diagnosis	**Code**	**CC or MCC?**
Acute respiratory failure with hypercapnia	J96.02	MCC
Acute respiratory failure with hypoxia	J96.01	MCC
Acute respiratory failure, unspecified	J96.00	MCC
Acute-on-chronic respiratory failure with hypercapnia	J96.22	MCC
Acute-on-chronic respiratory failure with hypoxia	J96.21	MCC
Acute-on-chronic respiratory failure, unspecified	J96.20	MCC
Chronic respiratory failure with hypercapnia	J96.12	CC
Chronic respiratory failure with hypoxia	J96.11	CC

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RESPIRATORY FAILURE CC/MCC TABLE		
Diagnosis	**Code**	**CC or MCC?**
Chronic respiratory failure, unspecified	J96.10	CC
Acute respiratory distress syndrome (adult or child)	J80	MCC
Respiratory insufficiency	R06.89	-
Hypoxia, hypoxemia	R09.02	-
The below diagnoses in bold are at high risk for auditing and impact quality reporting and physician report cards.		
Shortness of breath	R06.02	-
Acute post-procedural respiratory failure	**J95.821**	**MCC**
Acute and chronic post-procedural respiratory failure	**J95.822**	**MCC**

OBESITY HYPOVENTILATION SYNDROME

ICD-10: E66.2 MORBID (SEVERE) OBESITY WITH ALVEOLAR HYPOVENTILATION (CC)

Obstructive sleep apnea (OSA) is present in a large percentage of people with obesity hypoventilation syndrome (OHS) (also called Pickwickian syndrome), which causes daytime hypoxia and hypercapnia in the absence of other causes. The true cause of this phenomenon is unknown. Patients with OHS have high CO2 levels in the blood when they are awake. The main symptoms of OHS are caused by lack of sleep and include poor sleep quality and sleepiness, depression, and headaches. **The foremost component of OHS is sleep apnea.**

Possible Clinical Indicators: OSA, chronic hypoxia, cyanosis, poor quality/interrupted sleep pattern, sleepiness, cognitive dysfunction, pulmonary HTN, significant nocturnal desaturation, high RBC count, right heart failure (cor pulmonale), elevated HC03 and PaC02

Possible Risk Factors: BMI >30 kg/m2 (higher among those with BMI >40), obesity

Possible Treatment: CPAP, BIPAP/noninvasive ventilation, supplemental oxygen, weight loss or nutritional education, referral to pulmonary/sleep lab, ABGs, pulmonary function tests (PFTs)

This diagnosis is frequently under-documented in the morbidly obese population. Diagnoses that go hand-in-hand that you may frequently query for either singularly or as a group include:

- Obesity hypoventilation syndrome
- Chronic respiratory failure
- Sleep apnea
- Dependence on supplemental oxygen.

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PLEURAL EFFUSION

Pleural effusion can be your principal diagnosis. However, it is often the result of another disease process. Also a pleural effusion can be completely unrelated to your principal diagnosis. This requires you to use your critical thinking skills to determine the patient's clinical picture. There are two types of pleural effusions:

Pleural effusion as a principal or a secondary diagnosis may be a supportive indicator for a more specific diagnosis. This may impact the MS-DRG assignment as well as quality reporting. Consider querying for etiology/cause when not specified!

- **Transudate:** congestive heart failure or nephrotic syndrome
- **Exudative:** pneumonia, malignancy, or autoimmune disorders (but not limited to).

When only "pleural effusion" is documented, consider the possible etiology and clinical indicators:

- **CHF:** History of chronic systolic/diastolic heart failure, Lasix, echo, cardiology consult, tachypnea, low Sp02, oxygen, peripheral edema, SOB, CXR shows volume overload, vascular congestion, edema, decreased urine output
- **Acute pulmonary edema:** In the absence of congestive heart failure, CXR shows vascular congestion in the lung, IV Lasix, SOB, hypoxia, peripheral edema
- **Chronic pulmonary edema:** May see baseline vascular congestion with no increase in diuretics or respiratory symptoms
- **Pneumonia:** CXR shows patchy consolidation/effusion, IV antibiotics, fever, leukocytosis, cough
- **Malignancy:** History of lung cancer, SOB

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (2ND Q 2015, VOL. 2, NUMBER 2)

QUESTION: How is pleural effusion in congestive heart failure coded?

ANSWER: Code J91.8, Pleural effusion in other conditions classified elsewhere, is assigned as a secondary code **only if the condition is specifically evaluated or treated**. Pleural effusion is commonly seen with congestive heart failure with or without pulmonary edema. Ordinarily the pleural effusion is minimal and is not specifically addressed other than by more aggressive treatment of the underlying congestive heart failure. However, it is acceptable to report pleural effusion (J91.8) as an additional diagnosis if the condition requires either therapeutic intervention or diagnostic testing.

Tips:

- "Volume overload" is not a code in ICD-10. (Like "urosepsis," you MUST query for clarification.)
- "Fluid overload" codes to E87.70 and if the PDX may be denied secondary to not meeting medical necessity.

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- "Pulmonary edema" not specified as acute codes to chronic pulmonary edema (CC) in ICD-10.

POSSIBLE CAUSES OF EFFUSION AND IMPACT IF THEY ARE SECONDARY DIAGNOSES

Diagnosis	Code(s)	CC or MCC if SDX?
CHF – Acute/exacerbation, systolic, diastolic, combined	Multiple	MCC
CHF – Chronic, systolic, diastolic, combined	Multiple	CC
Acute pulmonary edema unspecified (not due to CHF)	J81.0	MCC
Chronic pulmonary edema (not due to CHF)	J81.1	CC
Pneumonia	Multiple	MCC
Malignancy	Multiple	CC

PULMONARY EMBOLUS

A pulmonary embolus is a potentially life-threatening blood clot that blocks one or more arteries in the lung and causes dyspnea, hypoxia, and respiratory distress.

Chronicity:

- Acute (MCC)
- Chronic (CC)
- Healed/old / history

Etiology:

- Air or fat embolus (traumatic)
- Complication of surgery
- Septic

Possible Clinical Indicators: Chest pain worsening on inspiration, SOB, pleural rub, hemoptysis, unilateral leg edema/redness/pain, hypoxia, tachycardia, tachypnea, circumoral cyanosis, elevated D-Dimer, venous Doppler study, positive spiral chest CT, high probability or mismatched VQ study, echo, and right heart strain

Possible Risk Factors: Smoking, factor V Leiden deficiency, polycythemia, cancer, birth control pills or estrogen replacement therapy, age >50, prior history of DVT/PE, recent airplane transportation

Possible Treatment: Anticoagulation (Coumadin, Lovenox, Heparin), IVC filter, TPA consideration

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One of the concepts you may find yourself querying for is the **acuity** of a PE—not for the principal diagnosis but for the secondary diagnosis. PE is one of those diagnoses that tend to linger on problem lists; if it is not clarified, it could be accidentally coded as a new/acute PE when in reality it is old/chronic. Make sure to get the acuity clarified if need be.

CODING GUIDELINE

If your patient's principal diagnosis is an acute pulmonary embolus and he or she also has acute cor pulmonale, you will use the combination code I26.09—other pulmonary embolism with acute cor pulmonale. This is an example of a PDX acting as its own MCC, which is a new concept in ICD-10.

For more information about DVT see MDC 5.

CYSTIC FIBROSIS

Cystic fibrosis (CF) is a hereditary exocrine gland disease that causes excessive and abnormally thick secretions. This primarily involves the respiratory and digestive systems but can involve multiple systems. The principle cause of death in this population is end-stage lung disease.

COMPLICATIONS: Acute bronchitis, bronchiectasis, pneumonia, atelectasis pneumothorax, acute cor pulmonale, rectal prolapse, gastroesophageal reflux disease (GERD), diabetes, bile duct obstruction, osteoporosis, electrolyte imbalances, intussusception, hemoptysis, nasal polyps, respiratory failure

Often these patients will have pseudomonas in the lungs; this is not the equivalent of PNA. All co-existing conditions should be coded separately.

Query Opportunity for CF Patients:

- *Acute, acute-on-chronic, chronic respiratory failure*
- *Pneumonia, aspiration bronchitis*
- *Acute respiratory distress*
- *Malnutrition (mild, moderate, severe cachexia, emaciated)*
- *BMI ≤ 19 with underweight w/treatment*
- *DM w/ hyperosmolarity, coma, or ketoacidosis*
- *Blood in stool, hemoptysis, hematemesis*
- *Intussusception, SBO, intestinal obstruction*
- *Intestinal impaction, ileus*
- *UTI*
- *Hyponatremia, hypernatremia*
- *Oral thrush*
- *Acute or chronic pancreatitis*
- *Depression, major/acute, mild, moderate, recurrent*

MANGAGEMENT: Inhaled bronchodilators, chest PT and postural drainage, oral/IV antibiotics, nutritional therapy, anti-inflammatory agents, mucolytic, nebulizers, inhaled hypertonic saline, insulin

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Body Systems Affected by Cystic Fibrosis:

1. **Pancreas:** Thick mucus prevents pancreatic enzymes from reaching the duodenum to aid in digestion, especially fat. Patients may develop DM later in life.
   - BMI, albumin ratio, total protein, appearance, supplements, etc.
2. **Pulmonary:** Thick mucus causes bronchial and bronchiolar obstruction. Patient susceptible to repeated infection and subsequent chronic lung disease with pulmonary hypertension and/or cor pulmonale.
   - Dyspnea, hypoxia, tachypnea, oxygen support, etc.
3. **Cardiac:** Right ventricular hypertrophy as a result of obstructive bronchial disease, cor pulmonale, and/or pulmonary HTN.
   - Right ventricular hypertrophy, ABG abnormalities, cardiomyopathy, etc.
4. **Biliary:** Biliary tract obstruction resulting in biliary cirrhosis, portal hypertension, and splenomegaly
   - Jaundice, abdominal pain, elevated liver enzymes, procedures, etc.
5. **Reproductive:** Women are generally fertile if their growth and development are normal. Men likely sterile secondary to obstructive azoospermia. (*Coding Clinic*, Fourth Quarter 1990, pages 16–17)

ASTHMA

INCREASED SPECIFICITY IN ICD-10

Asthma is a frequent reason for visits to the hospital for both children and adults and affects approximately 8 to 10 percent of the U.S. population. Asthma is a complex clinical syndrome of chronic airway inflammation characterized by recurrent, reversible, airway obstruction. Airway inflammation also leads to airway hyper-reactivity, which causes airways to narrow in response to various stimuli. (MedicineNet, 2015) Bronchospasm is included in the asthma code as it is presumed part of the disease process.

When it comes to coding asthma, there are several concepts that need to be clarified and that you may query to increase specificity such as:

- Mild intermittent
- Mild persistent
- Moderate persistent
- Severe persistent.

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Acuity:

- With (acute) exacerbation
- With status asthmaticus

Is it present in conjunction with one of the following:

- COPD
- Chronic obstructive bronchitis

HYPOXIA AND CORRELATING DIAGNOSIS: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient has "severe hypoxia" documented (symptom)

Can you further specify if we are treating this patient for one of the following diagnoses?

- Acute-on-chronic respiratory failure, hypoxic
- Acute-on-chronic respiratory failure, hypercapnic
- Chronic respiratory failure only, hypoxic
- Chronic respiratory failure only, hypercapnic
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: 72% room air sat on admission – required NRB x 12 hours, then 6L O2 via NC (now on 5L 90–92% O2 sat), tachypnea with RR up to 30, intercostal muscle use in the ER, and arterial PO2 on ABG in ER while on NRB was 81

Risk Factors: Pneumonia and COPD exacerbation, chronic respiratory failure with 2–3 L O2 dependence 24/7

Treatment: High level oxygen (NRB, 6L), ICU level of care x 1 day, respiratory therapy evaluation and treatment, breathing treatments, and we are treating the patient's PNA and COPD

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

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MDC 4: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the following diagnoses nor is the list below a comprehensive one of severity drivers, CCs and MCCs. (There are thousands of others.) The diagnoses below are simply common severity drivers, CCs, and MCCs that are frequently found in the respiratory chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity Drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	CHF unspecified COPD COPD w/ asthma	Cor pulmonale, chronic Dependence on supplemental O2	Dysphagia electrolyte/ fluid Disorder Emphysema Failure to thrive, adult

Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC. **Secondary Diagnosis = SDX**	Acidosis/alkalosis Acute kidney injury/acute renal failure Air leak from chest tube Air leak, postoperative Anemia, acute blood loss (ABLA) Anoxic brain injury/damage Asphyxia Ascites Asthma exacerbation Asthma with status asthmaticus Atelectasis (pulmonary collapse) BMI << 19, BMI > 40 (**with linked** diagnosis – underweight, morbid obesity) Cachexia/Emaciated Cardiomyopathy (unspecified, alcoholic) CHF or heart failure, systolic/diastolic/ combined chronic Left heart failure CKD stage 4 and 5	COPD, acute exacerbation COPD, with acute bronchitis DVT Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) History of transplant (bone marrow, heart, lung, intestines, kidney, liver, pancreas, peripheral stem cells) Hypo- and hypernatremia Leukemia and lymphoma Lung transplant status Malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Obesity hypoventilation syndrome Opioid dependence, pleural effusion Pneumothorax Pulmonary embolism, chronic Respiratory distress, acute Respiratory failure, chronic Shock, unspecified Thrush, oral
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC. **Secondary Diagnosis (SDX)**	Acute edema of lung Acute pulmonary edema Acute renal failure w/ ATN Acute respiratory distress syndrome (ARDS) Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) Candidiasis of lung CHF, systolic/diastolic/combined, acute or acute on chronic Cor pulmonale, acute Cystic fibrosis w/ pulmonary manifestations (as SDX)	Encephalopathy (metabolic, toxic, septic) ESRD Flail chest Malnutrition, protein-calorie (severe, nutritional marasmus) Pneumonia, all (including aspiration PNA) Pulmonary embolism (new/acute) Quadriplegia, functional quadriplegia Respiratory arrest Sepsis, severe sepsis, septic shock (as SDX) Shock: cardiogenic, hemorrhagic, hypovolemic, septic, traumatic

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MDC 4: CASE STUDIES

CASE STUDY 1

88 y/o female with PMH Parkinson's disease, dementia, HTN, and CVA presented to the ED from nursing home with vomiting, fever, and non-productive cough. CXR shows RLL pneumonia, and the patient is administered IVF @ 100ml/hr, 6L oxygen via NC, and IV Flagyl and Zosyn. Nursing documentation specifies that on admission the patient has sternal retractions and tachypnea with a RR of 34. She is also confused on admission with a GCS of 12 and is only A&O x 1. Documentation specifies that the patient feels better after receiving IVF, and is now saturating 90% on home dose oxygen liter flow of 3L without any more sternal retractions or shortness of breath. She is then transferred to the floor. The final impression from the ER physician is pneumonia and includes the following:

PROBLEMS:

1) Pneumonia on appropriate antibiotics (see ID note)
2) Continue 3LNC to maintain saturation ≥ 93%, wean to home oxygen liter flow. Looking better.
3) Confusion improving, likely due to better oxygenation.
4) Respiratory therapy to induce sputum for culture and sensitivity
5) Modified barium swallow, speech eval for progressive Parkinson's disease
6) Nursing states family thinks the patient is getting close to baseline mental status. 1:1 supervision can be discontinued since patient is close to NSG station.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

70 y/o female with COPD on 1.5L O2 at home presents for resection of sigmoid colon after repeated exacerbation of ulcerative colitis. Surgery was uncomplicated with EBL 400 ml, and 2L LR given. Postoperatively she is requiring 2–3L of O2 via NC the day after surgery. By hospital day 2 she is back down to 1.5 L of O2 (home level) and overall doing well. You see the following progress note documentation on hospital day 3:

PROBLEMS:

1) POD#2 abdominal surgery – doing well.
2) Chronic hypoxia – down to baseline. Continue O2 and respiratory therapy w/breathing treatments PRN.
3) COPD. No exacerbation at this time.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 5: DISEASES AND DISORDERS OF THE CARDIOVASCULAR SYSTEM

CHEST PAIN

ETIOLOGY OF CHEST PAIN

High-Risk MS-DRG 313 (Chest Pain): RACs Love It!

Chest pain *should never* be the reason for an **inpatient** admission. Chest pain is a **symptom** that always needs to be clarified for its etiology, if possible. Unspecified chest pain does not meet Medicare inpatient criteria and can be a reason for the recovery audit contractors (RACs) to deny the entire admission.

POSSIBLE CAUSES OF CHEST PAIN

Diagnosis	Code(s)	CC or MCC?
Acute myocardial infarction	I21.3	MCC
Angina, unstable	I20.0	CC
Anxiety/Psychogenic chest	F45.41	-
Primary sclerosing cholangitis	K83.01	CC
Cardiac arrhythmia, atrial flutter	I48.92	CC
Coronary artery disease (CAD)	I25.10	-
Costochondritis/Tietze's disease	M94.0	-
Dressler's syndrome	I24.1	CC
GERD	K21.9	-
Ischemic heart disease, acute	I24.9	CC
Pericarditis	I31.9	CC
Pleurisy	R09.1	-
Pneumonia	J18.9	MCC
Pneumothorax	J93.9	CC
Pulmonary embolism	I26.99	MCC
Shingles	B02.9	-
Valve disorder, aortic stenosis	I35.0	-
CHF or heart failure, unspecified systolic/diastolic/combined	I50.9	CC, chronic MCC-acute, acute-on-chronic

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ANGINA

Angina is not a disease; it is a **symptom** of an underlying problem that causes a lack of oxygenated blood for the heart muscle. ICD-10 requires more specificity to accurately link it with its etiology and to reflect the care provided. In order to correctly code angina, you must have documentation of the following:

Acute Coronary Syndrome (ACS)?

Physicians frequently document this and believe it will code to Angina or MI.

ACS ≠ Angina or MI

Acute coronary syndrome codes to acute ischemic heart disease, unspecified (I24.9).

Query to clarify!

- **Specificity**
  - With atherosclerosis or arteriosclerotic heart disease
  - Unstable
  - Crescendo
  - Following MI
  - Of effort
- **Type of Vessel**
  - Bypass graft
  - Native vessel
  - Transplanted heart
- **Distinction**
  - With or without HTN
  - With or without spasm

ACUTE MYOCARDIAL INFARCTION

AMI remains a leading cause of morbidity and mortality worldwide. Myocardial infarction occurs when myocardial ischemia, a diminished blood supply to the heart, exceeds a critical threshold and overwhelms myocardial cellular repair mechanisms designed to maintain normal operating function and homeostasis. Ischemia at this critical threshold level for an extended period results in irreversible myocardial cell damage or death. *(Cleveland Clinic, 2016)*

As a CDS, it is your responsibility to ensure that an AMI is appropriately documented so it can be captured by coding after the patient is discharged. Often you will see documentation like "chest pain," "ACS," or "elevated troponins." This needs to be clarified with the physician if the patient is having signs and symptoms of an MI. "Elevated troponins" is coded R79.89—signs and symptoms of abnormal findings of blood chemistry.

CODING GUIDELINE

The *ICD-10-CM Official Guidelines for Coding and Reporting*, chapter 9b, state the following.

When using combination codes (for atherosclerotic heart disease with angina), it is not necessary to use an additional code for angina pectoris. A **causal** relationship can be assumed in a patient with both atherosclerosis and angina pectoris, unless the documentation indicates the angina is due to something other than the atherosclerosis. **If a patient with coronary artery disease is admitted due to an acute myocardial infarction (AMI), the AMI should be sequenced before the coronary artery disease.**

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Possible Clinical Indicators: Chest pain, SOB, "reflux," heartburn, indigestion or abdominal pain, weakness, dizziness, syncope, "cold sweat," EKG changes, elevated troponins

Possible Risk Factors: Age, tobacco use, HTN, elevated cholesterol/triglycerides, diabetes, family history of MI, lack of physical activity, obesity, stress, history of autoimmune diseases

Possible Treatment: MONA (morphine, oxygen, nitro, Aspirin), thrombolytics, antiplatelet agents, Beta blockers, ACE inhibitors, cardiac cath with possible PTCA or stent placement, echocardiogram, stress test, cardiac CT or MRI, CABG

AMI documentation should include:

- **Time frame**: the first or initial MI or subsequent MI (a new MI within four weeks of initial MI)
- **Type of MI**: ST elevation (STEMI), non-ST elevation (NSTEMI), non-Q wave, nontransmural, Q-wave, type 2, type 3, type 4a, type 4b, type 4c, type 5
- **Site**: Anterior, apical-lateral, basal-lateral, inferior, inferoposterior, lateral, posterior, septal
- **Artery involved**: Left main coronary artery, left anterior descending artery, diagonal, left circumflex coronary artery, oblique marginal, right, other coronary artery of anterior or inferior wall
- **Distinction/With**: Hypertension, old MI, post-MI syndrome, subsequent MI (within four weeks of previous MI)
  - **Remember:** Document actual date of initial MI, other associated diagnoses or conditions.

AMI, unspecified is still MUCH better documentation than "chest pain" and will still get the MCC as a secondary diagnosis. If MI is documented and is not further specified, it will code to STEMI of an unspecified site. However, it is better to avoid using unspecified codes and should be queried for specificity.

There are several rules for coding MIs. When the PDX is from MDC 5, the MI over-rides everything and is sequenced first—even if coronary artery disease (CAD) or congestive heart failure (CHF) is present. (*Coding Clinic*, July–August 1984, pages 6 and 7) It is also important to note that there are six medical MS-DRGs possible for MI (three for patients discharged alive and three for patients who expire). If your patient expires, there are eight secondary conditions that will **no longer count as MCCs.** However, if they are occurring and not being documented, you should query. These are huge severity drivers for people who expire!

- Ventricular fibrillation (I49.01)
- Cardiogenic shock (R57.0)
- Hypovolemic shock (R57.1)
- Other shock (R57.8)
- Respiratory arrest (R09.2)
- Cardiac arrest due to underlying cardiac condition (I46.2)
- Cardiac arrest due to other underlying condition (I46.8)
- Cardiac arrest, cause unspecified (I46.9)

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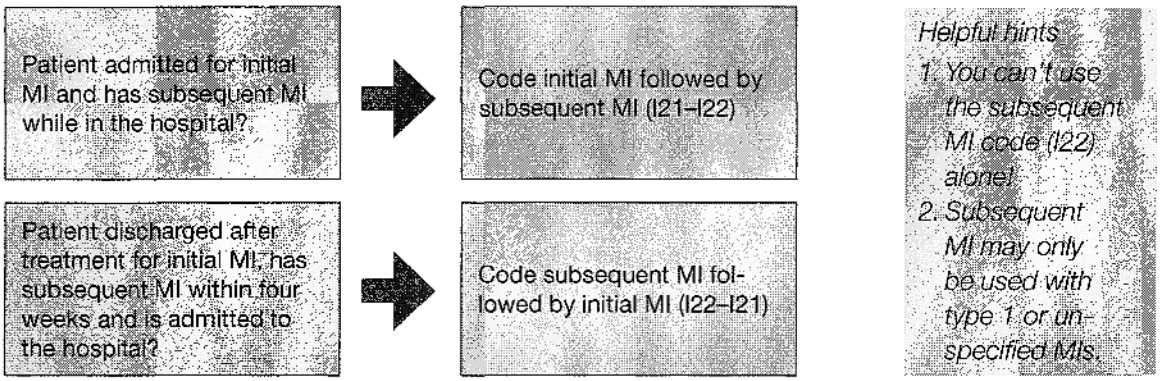
CODING GUIDELINE **AHA CODING CLINIC FOR ICD-10 (4TH Q 2012, PAGES 102–103)**

"ACUTE" VS "SUBSEQUENT" MI

QUESTION: A 66 y/o male was DC'd from the hospital after being hospitalized for a week for treatment of an acute transmural MI of the anterior wall. A week after his discharge he was brought back in the ED for chest pain and was admitted for treatment of a subsequent acute transmural MI of the inferior wall. How should this second admission be coded?

ANSWER: The sequencing of the I22 and I21 codes depends on the circumstances of the encounter. Since the reason for the admission was the subsequent MI, assign code I22.1, Subsequent ST elevation (STEMI) myocardial infarction of inferior wall, as principal diagnosis. Assign code I 21.09, ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall as a **secondary diagnosis**. *An I21 code must accompany an I22 code to identify the site of the initial acute myocardial infarction (AMI), and to indicate that the patient is still within the 4 week time frame of healing from the initial AMI.*

Remember: If this is the case, we do code the acute MI as a secondary, but it does not "count" as a CC or MCC, nor does it increase SOI/ROM.


Patient admitted for initial MI and has subsequent MI while in the hospital?
Code initial MI followed by subsequent MI (I21–I22)
Patient discharged after treatment for initial MI, has subsequent MI within four weeks and is admitted to the hospital?
Code subsequent MI followed by initial MI (I22–I21)
Helpful hints
1. You can't use the subsequent MI code (I22) alone!
2. Subsequent MI may only be used with type 1 or unspecified MIs.

As stated in the *ICD-10-CM Official Guidelines for Coding and Reporting* chapter 9e-1:

Codes from category I21 may continue to be reported for encounters occurring **while the MI is equal to, or less than, four weeks old,** including transfers to another acute setting or a post-acute setting, **and the patient requires continued care for the MI if the MI is type 1 or unspecified**. For encounters after the four-week time frame and the patient is still receiving care related to the myocardial infarction, the appropriate after-care code should be assigned, rather than a code from category I21.

CONGESTIVE HEART FAILURE OR HEART FAILURE

During inadequate cardiac output, the heart cannot meet the demands of the body. For documentation purposes, you will need the two CHF questions below answered. *(If acuity and type are both documented then acute will be an MCC, acute on chronic will be an MCC, and chronic will be a CC.)*

1. **Is it systolic, diastolic, or combined systolic and diastolic?**
2. **Is it acute, an exacerbation (acute-on-chronic), or chronic?**

Without clarifying the above two questions, CHF will code to CHF, unspecified (I50.9). This is not an appropriate severity driver, nor does it get us a CC or MCC. It is not specific and requires querying for clarification.

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INCREASED SPECIFICITY FOR ICD-10

- With or without HTN (if CHF is due to HTN and the patient also has chronic kidney disease [CKD], consider hypertensive heart and CKD or cardiorenal syndrome I13.0/I13.2).
- Due to rheumatic fever
- CHF following surgery (cardiac or other surgery):
  - Heart valve replacement is a **frequent cause of postoperative acute systolic or diastolic heart failure**. Look to see if your patient becomes *"fluid overloaded" after surgery* and requires a higher level of oxygen, IV Lasix, or transfer to cardiac step-down is put on hold.
  - If the **CHF is caused by surgery** (I97.130—postprocedural heart failure following cardiac surgery or I97.131—postprocedural heart failure following other surgery) **and this is why the patient is admitted**, it will be your principal diagnosis and take you to the MS-DRG 314, 315 or 316. In order to get the CC or MCC here, you must still get the CHF specified!
- With endocarditis
- With pericarditis
- With myocarditis

As a secondary diagnosis, "pleural effusion" is a CC. If CHF is your PDX, pleural effusion is assumed to be part of the disease process and is bundled into the diagnosis. *It does not count as a CC and should not be coded unless it requires "extra" treatment* (thoracentesis, serial CXRs, extended LOS, etc.).

SYSTOLIC VS. DIASTOLIC HEART FAILURE (YOUR PATIENT CAN HAVE BOTH.)

Systolic (HFrEF)	Diastolic (HFpEF)
A reduced/abnormal ejection fraction (EF%)	Normal or near normal EF%
Inability of the ventricles to contract	Inability of the ventricles to fill
Left ventricle (LV) is stretched/thickened	Abnormal LV filling and elevated filling pressures
Fluids back up into the lungs	Fluids back up into the body
Usually occurs in men 50 to 70 years old, and after MI	Typically occurs in women who are overweight or elderly with HTN and DM

ACUITY: ACUTE, ACUTE-ON-CHRONIC, CHRONIC

Acute on Chronic (Exacerbation) or Acute	Chronic
Use of IV Lasix	Use of PO Lasix
Increases in other CHF meds (beta blockers, digoxin, ACE-I, etc.)	Kept on home medications for "maintenance" of CHF (to prevent exacerbation)
Often a new echo is performed	Often echo not done
Often requires more intense level of care (higher amounts of oxygen, ICU, etc.)	Often does not require intensive care, usually not the primary reason for admission

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CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (1ST Q 2016, PAGES 10-11 WITH CORRECTION NOTICE 3RD Q 2016, PAGE 46)

CHF – "HFPEF"

QUESTION: If a physician documents heart failure with preserved ejection fraction (HFPEF), heart failure with preserved systolic function, and/or heart failure with reduced ejection fraction (HFREF), heart failure with low ejection fraction, heart failure with reduced systolic function, or other similar terms, can the coder assume the provider means respectively "diastolic heart failure" or "systolic heart failure," and apply the proper ICD-10-CM code based on the documented clinical circumstances?

ANSWER: No, the coder cannot assume either diastolic or systolic failure or a combination of both, based on these newer terms. Therefore, query the provider to clarify whether the patient has diastolic or systolic heart failure.

UPDATE: As of 1st Quarter 2016, the coder may assign diastolic or systolic and combined CHF when these new abbreviations are documented.

In Coding Clinic, 3rd Quarter 2016, page 46, the following correction/clarification was published:

ANSWER: Based on additional information received from the American College of Cardiology (ACC), the Editorial Advisory Board for Coding Clinic for ICD-10-CM/PCS has reconsidered previously published advice about coding heart failure with preserved ejection fraction (HFpEF), and heart failure with reduced ejection fraction (HFrEF). HFpEF may also be referred to as heart failure with preserved systolic function, and this condition may also be referred to as diastolic heart failure. HFrEF may also be called heart failure with low ejection fraction, or heart failure with reduced systolic function, or other similar terms meaning systolic heart failure. These terms HFpEF and HFrEF are more contemporary terms that are being more frequently used, and can be further described as acute or chronic.

Therefore, when the provider has documented HFpEF, HFrEF, or other similar terms noted above, the coder may interpret these as "diastolic heart failure" or "systolic heart failure", respectively, or a combination of both if indicated, and assign the appropriate ICD-10-CM codes.

CARDIORENAL SYNDROME

HYPERTENSIVE HEART AND CKD (SYNONYMS)

Cardiorenal syndrome (CRS) is the umbrella term used to describe clinical conditions in which cardiac and renal dysfunctions coexist. CRS has garnered much attention from both the cardiological and nephrological communities since the condition is associated with significant morbidity and mortality. Renal dysfunction is highly prevalent among patients with heart failure and has been shown to be as powerful and independent a marker of adverse prognosis as ejection fraction. Similarly, patients with renal failure are considerably more likely to suffer cardiovascular disease than matched subjects from the general population. *(Shah & Greaves, 2010)*

Another term that you will frequently see documented is "**hypertensive heart disease**." Both HTN heart with CKD and cardiorenal ayndrome are acceptable terms that will get us this increased specificity.

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QUERY OPPORTUNITY: Does your patient have CHF + CKD + HTN?
For example, the patient has:
- Systolic CHF exacerbation
- HTN
- CKD 3

There is a cause-and-effect relationship assumed between HTN and CKD. With the 2017 update, you can assume a relationship between CHF and HTN. If the provider documents that there is no relationship, the codes can be assigned separately.

With a connection/relationship between HTN and CHF, you can now sequence the hypertensive heart disease (hypertensive heart and CKD with heart failure and Stage 3 CKD) as PDX, which then makes CHF your MCC and moves you into MS-DRG 291—Heart Failure and Shock w/ MCC. **CHF must still be specified (chronic/acute on chronic/acute; systolic/diastolic/combined) in order to have a CC/MCC!**

ARRHYTHMIAS

The term "arrhythmia" refers to any change from the normal sequence of electrical impulses, which cause the heart to beat too fast, too slowly, or erratically. When the heart doesn't beat properly, it can't pump blood effectively. When the heart doesn't pump blood effectively, the lungs, brain and all other organs can't work properly and may shut down or be damaged. *(American Heart Association, 2015)*

This is important in CDI for many reasons. Many arrhythmias are not documented well enough to be adequately captured in coding after discharge. Occasionally, you will only see arrhythmias documented by nursing staff ("18 beat run of V-Tach, paged Dr. Smith, gave IV Lopressor x 2")… and then never see this documented by a provider in a progress note. Also in ICD-10 there is much more specificity regarding the coding of arrhythmias.

ICD-10: ARRHYTHMIAS

Diagnosis	Code(s)	CC or MCC?
Atrial fibrillation, unspecified	I48.91	-
Atrial fibrillation, chronic/permanent	I48.2	-
Atrial fibrillation, paroxysmal	I48.0	-
Atrial fibrillation, persistent	I48.1	CC
Post-operative A. fib or A. flutter/bradycardia (caused by surgery, no history of arrhythmia)	I97.89	CC
Atrial flutter, typical type I/atypical type II/ unspecified	I48.3/I48.4/I48.92	CC
Supraventricular tachycardia(paroxysmal), atrial/AV/AVRT/junctional/nodal	I47.1	CC
Premature junctional contractions	I49.2	CC
Ventricular fibrillation/flutter	I49.01/I49.02	MCC
Cardiac arrest	I46.X	MCC
Tachycardia, unspecified	R00.0	-
Paroxysmal tachycardia, unspecified	I47.9	-
Bradycardia, unspecified/sinus/vagal	R00.1	-

Arrhythmia documentation should include the following.

- **Acuity:** Chronic/paroxysmal/permanent/persistent/sustained/unspecified *(Remember: If an arrhythmia is documented as "unspecified," we usually cannot capture the CC/MCC, and a query is needed to clarify.)*

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- The abbreviation **PAF** could refer to paroxysmal, persistent, or permanent atrial fib. This should be clarified for accurate coding (only "persistent" is a CC). If you query and clarify this, it will make your coders very happy!
  - **Persistent atrial fibrillation:** This condition is a **rare** circumstance, where atrial fibrillation with acute onset persists beyond seven days despite treatment efforts for which subsequent cardioversion is planned. It is not chronic atrial fibrillation for which only rate control is the planned management. Do not query for persistent atrial fibrillation if it is chronic and no cardioversion is planned. *(Pinson & Tang, CDI Pocket Guide, 2016)*
- If it is a chronic condition (maintained with home medications), this needs to be documented as well.
- **Cardiac arrest:** It is important to identify whether the etiology is (when known):
  - Due to underlying cardiac condition
  - Due to other underlying condition
  - Postprocedural (cardiac or other surgery)
  - Intraoperative (cardiac or other surgery).

REMEMBER TO ASK: "IS THIS CONDITION BEING TREATED?"

- *If an arrhythmia is seen, but the patient is asymptomatic and does not require any treatment it **may not meet criteria for a secondary diagnosis**.*
- *However, if the same **arrhythmia is seen and treated** (IV/PO medications, telemetry monitoring, extended stay, hospitalist/cardiology consult) **but not documented in physician's notes**, it will not be coded and may require a query.*

DEEP VEIN THROMBOSIS

Deep venous thrombosis (DVT) is the clotting of blood in a deep vein of an extremity (usually calf or thigh) or the pelvis. DVT is the primary cause of pulmonary embolism (50 percent of patients with DVT develop PE). The biggest risk factors for DVT are recent surgery and immobility; other risk factors include cancer, pregnancy, medications, overweight/obesity, smoking, and inherited clotting disorders.

However, many DVTs are idiopathic, which means the cause is unknown. Signs and symptoms of DVT include leg pain, redness, and erythema, though they can also be asymptomatic. They are diagnosed via ultrasound and frequently the patient has elevated D-dimer levels. Treatment includes anticoagulants (IV and PO), compression stockings, smoking-cessation education, and, in rare cases, IVC filter and thrombolytics.

One of the biggest issues with documentation and coding of DVTs is acuity. For whatever reason, DVT is often one of those diagnoses that linger on problem lists long after it has resolved. As stated in *For the Record (2011)*:

> *"Typically, an acute DVT is considered a new thrombosis that requires the initiation of anticoagulant therapy. A chronic DVT is an old or previously diagnosed thrombus that requires continuation of*

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anticoagulation therapy. However, specific code assignment is based on physician documentation…there are no specific guidelines for when DVT is considered chronic. The code assignment for chronic DVT is based solely on physician documentation…A patient admitted with a deep venous thrombosis (DVT) of the lower extremity will need to have more specific documentation in ICD-10, to indicate the specific vein, such as femoral or iliac, along with laterality to indicate the actual side of the body involved. [For example] If the DVT is of the left femoral vein, it is reported as I82.412."

Diagnosis	Code(s)	CC or MCC?
Acute DVT of lower or upper extremity	Many codes	CC
Chronic DVT lower or upper extremity	Many codes	CC
History of/old DVT	Z86.718	–

There are many codes for the above diagnoses due to ICD-10's increase in specificity for location of the DVT.

One query CDI specialists occasionally send is requesting clarification for the acuity of the DVT.

PERICARDITIS

Pericarditis is swelling and irritation of the pericardium, the thin sac-like membrane surrounding your heart. Pericarditis often causes sharp, stabbing, chest pain and some other symptoms. The chest pain associated with pericarditis occurs when the irritated layers of the pericardium rub against each other and often a "rub" can be heard through a stethoscope when listening to the chest. Pericarditis may occur after a respiratory infection or flu-like illness, recent MI or injury to the chest, or other medical conditions that can cause fluid to build up in the pericardial sac (pericardial effusion). When it is acute, pericarditis usually begins suddenly but doesn't last long. When symptoms develop gradually or persist, pericarditis is considered chronic.

Most cases are mild and usually improve on their own. Treatment for more severe cases may include medications (antibiotics, anti-inflammatory/colchicine, and steroids). Occasionally, surgery may be necessary if cardiac tamponade develops. Pericardiocentesis can be done to remove fluid and relieve pressure on the heart or pericardiectomy/"pericardial window" to remove the pericardium, which is the only cure for chronic constrictive pericarditis.

Acute	Chronic
Sharp, stabbing chest pain (eases when sitting up and leaning forward; lying down and deep breathing worsens pain)	May or may not have chest pain
Fever Weakness Palpitations Difficulty breathing, tachypnea, low O2 sats Hypotension (severe cases)	Tiredness that is constant/unending Coughing Shortness of breath, chronic Swelling in stomach and legs Hypotension (severe cases)

Pericarditis documentation should include:

- **Acuity:** acute, chronic

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- **Type:**
  - Bacterial—document *bacteria if possible* (CC)
  - Idiopathic (CC)
  - Rheumatic (CC)
    - With acute chorea (CC)
    - Chronic or inactive (with chorea) (CC)
  - With rheumatic fever (CC)
    - Acute with chorea (CC)
    - Inactive or quiescent (CC)
  - Suppurative: Document infectious agent if possible (CC)
  - Traumatic (CC)
    - Due to contusion with or without hemopericardium (CC)
    - Due to laceration with or without hemopericardium (MCC)
  - Postcardiotomy syndrome
    - With or without shock: Specify type of shock if possible (CC/MCC)
  - In/With systemic lupus erythematous (CC)
    - Traumatic (CC)

ACUTE COR PULMONALE

Acute cor pulmonale is a form of acute right heart failure produced by a sudden increase in resistance to blood flow in the pulmonary circulation. It is rapidly recognized by bedside echo. It is defined as right ventricular end-diastolic area/left ventricular end-diastolic area (RVEDA/LVEDA) ration in the long axis greater than 0.6 associated with septal dyskinesia in the short axis. *(Gold, ACDIS Exclusive "Acute Cor Pulmonale")*

Possible Clinical Indicators: Dyspnea, hypoxia, hypoxemia, fatigue, cough, increased chest diameter, pulmonary hypertension, peripheral edema, jugular venous distention, passive hepatic congestion (elevated liver enzymes), anasarca, ascites, findings on echo c/w cor pulmonale and pulmonary hypertension

Possible Risk Factors: Pulmonary embolism (PE) is the most likely cause. Mandatory at this time (see *Coding Clinic*), very severe/extreme COPD exacerbation, very severe/extreme OSA

Possible Treatment: Oxygen, diuretics (IV/PO)—IV indicates acute as opposed to chronic, nebulizers, anticoagulation, obtaining new (or several) echos, sleep studies, smoking cessation

There are only two categories for cor pulmonale. It is either acute (I26.01, I26.02, or I26.09/MCC) or chronic (I27.81). **The most common cause is PE**. There are rare cases where a very severe episode of COPD can cause this as well. In ICD-10, there is an emphasis of this association with PE in the coding for acute cor pulmonale. *At this time, there is no code for acute cor pulmonale when it is not associated with PE.*

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CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (4TH Q 2014, VOL. 1, NUMBER 4)

ACUTE COR PULMONALE DUE TO PULMONARY HTN W/OUT MENTION OF PULMONARY EMBOLUS

QUESTION: A patient with a known history of pulmonary hypertension, chronic obstructive pulmonary disease and cor pulmonale presents with new-onset shortness of breath, increasing peripheral edema and severe abdominal distension due to decompensated right heart failure. The patient was treated with aggressive diuresis and oxygen supplementation. The physician listed "right heart failure, decompensated cor pulmonale secondary to severe pulmonary hypertension" in his final diagnostic statement. How should acute cor pulmonale be coded when there is no pulmonary embolism?

ANSWER: Assign code I50.9, Heart failure, unspecified, as the principal diagnosis for the right heart failure. Assign codes I27.81, Cor pulmonale (chronic), I27.2, Other secondary pulmonary hypertension, and J44.9, Chronic obstructive pulmonary disease, unspecified, as additional diagnoses. Unfortunately the Index under "pulmonary hypertension with acute cor pulmonale" leads to code I26.09, Other pulmonary embolus with acute cor pulmonale. In this case, code I26.09 is not appropriate since the patient does not have a pulmonary embolism. The National Center for Health Statistics (NCHS), the organization responsible for ICD-10-CM, will consider a future Coding and Maintenance Committee proposal to modify the codes describing pulmonary embolism with cor pulmonale.

SHOCK (SPECIFIED)

Shock is a life-threatening condition that occurs when the body is not getting enough blood flow (i.e., the cells and organs do not get enough oxygen or nutrients to function properly). Multiple organs can suffer damage as a result. Shock requires immediate medical treatment and can get worse very rapidly. As many as one in five people who suffer shock will die from it. **The following conditions are often associated with shock:** sepsis, AMI, trauma, spinal cord injury, hemorrhage (blood loss), volume depletion, allergic reaction. *(Medline Plus, 2015)*

ICD-10: SHOCK

Diagnosis	Code(s)	CC or MCC?
Adrenal/Addisonian crisis	E27.2	CC
Anaphylactic	T78.2XXA	CC
Cardiogenic	R57.0	MCC
Hematologic	R57.8	MCC
Hemorrhagic, surgery/trauma	T81.19XA/T79.4XXA	MCC
Hypovolemic	R57.1	MCC
Postprocedural due to cardiogenic	T81.11XA	MCC
Postprocedural due to endotoxin/gram negative/sepsis	T81.12XA	MCC
Postprocedural due to specified type NEC	T81.19XA	MCC
Postprocedural, unspecified	T81.10XA	CC
Septic due to severe sepsis	R65.21	MCC
Specified NEC	R57.8	MCC

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Diagnosis	Code(s)	CC or MCC?
Toxic, syndrome	A48.3	MCC
Traumatic (immediate/delayed)	T79.4XXA	MCC
Unspecified	R57.9	CC

*Your patient does **not** have to receive vasopressors to be determined to be in shock. Sometimes severely dehydrated patients just need fluid resuscitation (>3L). Sometimes anemic patients only need blood products. If the patient has persistent hypotension and is symptomatic, **and** is being treated for these conditions, you may need to query for some type of shock.*

*As CDSs we have been somewhat "flying under the radar" when it comes to coding procedures in ICD-9. This is not acceptable in ICD-10, as many surgeries/procedures will have a **bill stop** put on them if a coder cannot get to a final code due to incomplete documentation. Let's help out our coders as much as possible and concurrently get clarification for procedures!*

CARDIAC CATHETERIZATION

Cardiac catheterization is a procedure using dyes or ultrasound to visualize the blood vessels using a special catheter that is threaded through the blood vessels up to the heart. This can show the buildup of plaque within the coronary arteries which causes coronary artery disease (CAD) and narrowing of the arteries, restricting blood flow to the heart muscle. It also allows for visualization of blood clots causing coronary artery occlusions and AMI. Once the heart and coronary arteries are visualized there are several different possible procedures that can be done during the course of the cardiac catheterization to attempt to correct the problem.

Possible Clinical Reasons for Procedure: Chest pain, CAD, AMI, cardiomyopathy, atrial/septal defect, heart valve problems, pre-op cardiac clearance, heart infection or tumor, pulmonary hypertension

Possible Risks of Procedure: Bleeding, infection, or pain at insertion site, arrhythmias, stroke, AMI, hypotension, pericardial effusion/cardiac tamponade, kidney damage, blood vessel injury/damage, allergic reaction to dye

Possible Procedures: Diagnostic cath (blood samples, measure pressures, assess function of heart structures), PTCA, stent placement, administration of thrombolytic or other medications, heart muscle biopsy, repair heart defects, open stenotic heart valve, percutaneous valvuloplasty

There are many different reasons to perform a cardiac catheterization. It is important to know that depending upon the reason for the procedure and the principal diagnosis, a cardiac catheterization

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may be included or "bundled" into the MS-DRG, resulting in a variable impact on MS-DRG selection as well as SOI/ROM.

ICD-10: CARDIAC CATHETERIZATION/OTHERCARDIOTHORACIC PROCEDURE EXAMPLES

Diagnosis	Procedure	Procedure Code	MS-DRG	RW	SOI/ ROM
Atherosclerotic heart disease of native coronary artery with angina pectoris	Measurement of cardiac sampling and pressure, bilateral, percutaneous approach	4A023N8	287 Circulatory Disorders Except AMI, W/ Card Cath W/O MCC	1.1389	1/1
Atherosclerotic heart disease of native coronary artery with angina pectoris	Dilation of coronary artery, one site with intraluminal device, percutaneous approach	02703DZ	249 Perc Cardiovasc Proc w/ non-Drug-Eluting Stent W/O MCC	1.9901	1/1
Non-ST elevation (NSTEMI) myocardial infarction	Dilation of coronary artery, two sites w/ drug-eluting intraluminal device, percutaneous approach	027134Z	247 Perc Cardiovasc Proc w/ Drug-Eluting Stent W/O MCC	2.0771	1/1
ST elevation (STEMI) myocardial infarction involving other sites	Dilation of coronary artery, one site w/ drug-eluting intraluminal device, percutaneous approach	027034Z	247 Perc Cardiovasc Proc w/ Drug-Eluting Stent W/O MCC	2.0771	1/1
ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall	Introduction of other thrombolytic into heart, percutaneous approach	3E08317	282 Acute MI, discharged alive W/O CC/MCC	0.7490	2/2
Ventral septal defect	Repair ventricular septum, percutaneous approach	02QM3ZZ	229 Other Cardiothoracic Procedures W/O MCC	4.6484	1/1

CORONARY ARTERY BYPASS GRAFT (CABG) PROCEDURE

When severity or location of occlusions due to CAD causes narrowing of the cardiac arteries that cannot be corrected by cardiac catheterization and associated procedures, CABG may be the next step for therapeutic intervention. This is done using blood vessels harvested from other areas of the body as grafts. These may be pieces of vein taken from the legs, a chest artery, or a wrist artery (least common site). One end of the graft is sutured to a blood vessel above the blockage (aorta or internal mammary artery) and the other end is sutured below the blockage. Thus, a "detour" or "bypass" around the blockage is created, allowing blood flow restoration to areas of the heart affected by the blockage.

Traditionally, CABG is done by opening the chest by cutting the sternum ("breastbone") in half vertically and spread apart. Once the heart is exposed, tubes are inserted into the chambers of the heart so blood can be pumped via a cardiopulmonary bypass machine (heart-lung machine) and then the heart is stopped to allow the surgeon to perform the bypass operation.

CODING GUIDELINE

"Coronary arteries are **classified by the number of arteries treated rather than the anatomic name of the coronary artery (e.g. LAD).** CABG procedures are coded differently than other bypass procedures. Rather than identifying the body part bypassed from, the body part identifies the number of coronary arteries **bypassed to**, and the qualifier specifies the vessel bypassed FROM. If multiple coronary arteries are bypassed, a separate procedure is coded for each

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coronary artery site that uses a different device and/or qualifier." Harvesting of graft material is coded separately to the appropriate root operation for the procedure (i.e. excision)." *(ICD-10 PCS Coding Guidelines – Bypass Procedures. B3.6b, B3.6c, and B3.9).*

Documentation Required	Example
Origin/Destination of graft(s)	• Aorta to RCA • LIMA to LAD *(indicate if the LIMA was used as a pedicle graft)*
Type of graft(s) used	• Autologous artery • Autologous vein • Nonautologous tissue substitute • Synthetic substitute
Number of arteries bypassed	• One • Two • Three • Four or more
Excision of autologous graft: ID the vessel	• Saphenous vein (left/right) • Femoral vein (left/right) • Lower vein • Basilic vein (left/right) • Brachial vein (left/right) • Cephalic vein (left/right) • Upper vein
Approach for all procedures	• Open • Percutaneous • Percutaneous endoscopic

*Be sure to **read operation notes thoroughly** and identify if there is any missing documentation. Query for clarification while patient is still an inpatient.*

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (3RD Q 2014, VOL. 1, NUMBER 3)

QUESTION: Our facility is unclear regarding the coding of coronary artery bypass grafting (CABG) using the left internal mammary artery (LIMA). We are specifically debating whether the LIMA is considered a free graft or a pedicle graft, and if harvesting of the LIMA is also coded. If the LIMA graft remains attached, would only the bypass be coded with 6th character "Z" for no device?

ANSWER: Based on the documentation for this case, the LIMA was used as pedicle graft and was not excised from the patient. Therefore, a separate code should not be reported for harvesting/excision of the left internal mammary artery. Assign the following ICD-10-PCS code for the CABG utilizing the left internal mammary artery: **02100Z9** Bypass, coronary artery, one site, from left internal mammary, open approach

QUESTION: Please provide clarification for coding the harvest of the saphenous vein for coronary artery bypass grafting (CABG). In the operative note, the physician documents harvest of left saphenous vein from the leg with no further specificity. Is there any guidance when the documentation does not state upper/greater, or lower/ lesser saphenous vein?

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ANSWER: ICD-10-PCS does not have an "unspecified" or "not otherwise specified" designation for procedures performed on the saphenous vein. If the documentation does not specify which saphenous vein was harvested, query the physician for clarification so that the appropriate body part may be reported. Facilities may also work with providers to develop facility-specific coding guidelines, which will establish a default code based on common practice.

NOTE: In FY 2018, the greater/lesser specificity was eliminated.

CHF SPECIFICITY: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient has CHF that may require increased specificity

Can you further specify if we are treating this patient for one of the following diagnoses?

- Acute-on-chronic systolic CHF
- Acute systolic CHF
- Chronic systolic CHF only
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Patient with history of chronic systolic CHF, BNP 3986, SOB on admission, pleural effusion on CXR, 91% on 3L O2 via NC, and patient c/o worsening orthopnea prior to admission

Risk Factors: Chronic systolic CHF, noncompliance with medications (particularly diuretics per documentation)

Treatment: IV Lasix BID, new echo (showed EF 25%), multiple CXRs, cardiology consult

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

NOTE: In FY 2018, the classification of percutaneous mitral/tricuspids was changed from Z16/Z17/Z18/Z19/Z20/Z21 to Z66/Z67.

MDC 5: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the cardiology chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

There is quite a bit of CC/MCC opportunity in MDC 5 because the heart affects EVERYTHING.

Severity Drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Atrial fibrillation CHF unspecified Left heart failure with right-sided heart failure CKD stage 3	Cor pulmonale, chronic Dependence on supplemental O2 Electrolyte/Fluid disorder Emphysema Failure to thrive, adult	Hypercalcemia Hypocalcemia Hyperkalemia Hypotension Oliguria/Anuria Sick sinus syndrome

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Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/Alkalosis Acute coronary syndrome (ACS-unstable angina) Acute kidney injury/acute renal failure Air leak from chest tube Air leak, postoperative Anemia, acute blood loss (ABLA) Anemia, blood loss post op (post op ABLA) Anemia, aplastic unspecified Anoxic brain injury/damage Ascites Atelectasis (pulmonary collapse) Atrial fib, persistent Atrial fib, postop (no hx of Afib) Atrial flutter BMI ≤19, BMI > 40 (**with linked** diagnosis, underweight, morbid obesity) Cachexia/Emaciated CAD of autologous vein bypass graft Cardiac tamponade Cardiomyopathy, non-ischemic CHF or heart failure, systolic/diastolic/combined chronic left heart failure CKD stage 4 and 5 Coagulopathy	Complications of transplanted organs COPD, acute exacerbation COPD, with acute bronchitis DVT Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Gangrene Heart block, bifasicular/trifasicular Heart block, complete, AV block complete, history of transplant (bone marrow, heart, lung, intestines, kidney, liver, pancreas, peripheral stem cells) Malnutrition, protein-calorie (mild, moderate, unspecified) Obesity hypoventilation syndrome Pericardial effusion Pericarditis–acute idiopathic or rheumaticpulmonary embolism, chronic Respiratory distress, acute Respiratory failure–chronic Shock, postoperative, unspecified Shock, unspecified Thrombophlebitis and venous thrombosis Ventricular tachycardia
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Abdominal aneurysm, ruptured Abscess, liver, lung, mediastinum Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory distress syndrome (ARDS) Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) Brain death Cardiac arrest, discharged alive CHF, systolic/diastolic/combined, acute or acute on chronic coma Cor pulmonale, acute CVA or stroke (as SDX) Defibrinating syndrome or disseminated intravascular coagulation (DIC) Encephalopathy (metabolic, toxic, septic)	Endocarditis, acute ESRD Hepatic coma or hepatic encephalopathy (*acute/subacute) Hepatorenal syndrome Malnutrition, protein-calorie (severe, nutritional marasmus) Myocardial infarction (acute, as SDX) Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 & 4 (if not POA, will code to a HAC) Pulmonary embolism (new/acute) Quadriplegia, functional quadriplegia Respiratory arrest Sepsis, severe sepsis, septic shock (as SDX) Shock, cardiogenic Shock, hemorrhagic Shock. hypovolemia Shock, septic Shock, liver/acute liver failure with or without coma Ventricular fibrillation, discharged alive Ventricular flutter

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Special factors for this MDC:	**MCC if discharged alive in this MDC:** Cardiac arrest Cardiogenic shock Hypovolemic shock Other shock Respiratory arrest Ventricular fibrillation ***Remember:*** *If the patient expires, you can still code these as additional/secondary diagnoses, and they will likely increase the SOI/ROM. They just don't "count" as an MCC.*

MDC 5: CASE STUDIES

CASE STUDY 1

47 y/o female presents to ER with chest pain radiating to back and jaw, SOB, diaphoresis, and nausea. She states that she had chest pain yesterday but she thought it was "just indigestion" as it went away on its own. However, the pain returned and "woke her out of a sound sleep." She denies any cardiac or pulmonary history, although does say that both her parents had HTN and "some kind of heart problem." BP 165/89, HR 90, RR 24, SpO2 96% on 3L nasal cannula. Cardiac monitor shows NSR w/ elevated ST and runs of V-tach with Troponin 5.3. Upon arrival she is given 4 baby aspirin, NTG SL and morphine 4mg IV. Cardiac Cath lab is notified and cardiac cath done within 90 minutes of arrival to ER.

PHYSICIAN DOCUMENTATION:

1) Chest pain w/ ACS and elevated troponins
2) Cath done, showed RCA and circumflex involvement. Two stents placed. Chest pain now resolved. and patient is resting quietly. Monitor shows NSR w/ reperfusion tachycardia.
3) Remains on NTG gtt, Lopressor started. Keep in CCU today.
4) Echo today. CXR showed vascular congestion/ pleural effusions. Troponin initially peaked at 5.3 but now declining.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

66 y/o male admitted for CAD and cardiac cath, which showed severe triple vessel disease (TVD) including L main disease. Unable to do stents, placed consult for cardiothoracic surgeon for CABG, which was done the next morning with EBL 700cc. Postoperative blood pressure 90s/50s, HR 108, RR 20–24 on vent. On Dobutamine gtt, Levophed gtt, and Precedex gtt. Received 2 units PRBC, 2 units FFP, and 1 unit Plt in OR along w/ cell-saver blood. Chest tube output 400 cc/8 hrs. 24 hours post-op remained hypotensive (79/42–84/44) with H&H 6.9/23.2. Received an additional 2 units PRBCs, 500 cc Hespan IV. IV D5 1/4NS w/ 20mEq KCl at 125cc/hr after 1L bolus.

PHYSICIAN DOCUMENTATION:

1) CAD w/ TVD. CABG x4
2) BP low requiring dobutamine and levophed
3) Given 2 units PRBC and 500cc Hespan post-op, now seems more stable
4) Anemia--see above.
5) Remains on vent 2/2 to above issues.
6) Wean dobutamine and levophed as able.
7) Follow standing orders for K+ replacement.
8) Standard follow-up labs in am

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 3

77 y/o male admitted with exacerbation CHF and dyspnea on exertion. Has history of CHF, CKD 4, HTN, cardiomyopathy, and COPD. Echo done 6 months ago showed EF% of 45%. Given Lasix 40mg IV, O2 45% ventimask titrated to 5L nasal cannula, increased Lopressor to 50 mg BID PO and Coreg to 6.25mg PO BID. Saline Lock IV. BNP 950, BUN 40, Cr 2.5 (baseline 1.8) and GFR 20.

PHYSICIAN DOCUMENTATION:

1) Acute CHF and dyspnea. Echo previously showed EF 45%. Echo in am, continue Lasix IV x 2 days then switch to PO home dose.
2) More comfortable after Lasix given. Continues to require increased amt of O2, does not use O2 at home but states it is "getting harder to breathe at home"
3) May consider stress test when more stable to r/o MI
4) Hx CHF, CKD, HTN, cardiomyopathy, COPD
5) CKD with elevated creatinine above normal. Cautiously start IV fluids @ 30ml/hr. Orders for BMP twice daily updated this am. Concerned about toxicity of Lasix.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 6: DISEASES AND DISORDERS OF THE DIGESTIVE SYSTEM

ABDOMINAL PAIN

MS-DRG 392: ESOPHAGITIS, GASTROENTERITIS, AND MISCELLANEOUS DIGESTIVE DISORDERS W/OUT MCC

When "abdominal pain" is assigned as a principal diagnosis, it is a red flag for RACs because in and of itself, it is not a reason for an inpatient admission. Abdominal pain is usually a symptom of a more specific diagnosis that warrants the admission, but sometimes that diagnosis is not specified in the progress notes or the discharge summary. A query is necessary when a principal diagnosis is "abdominal pain." Consider the indicators in the patient record along with the workup and treatment administered, as well as the patient's HPI and past medical history (PMH).

Possible Clinical Indicators: Anemia, nausea, vomiting, diarrhea, chalky stool, foul-smelling seedy stool, melena, hematochezia, hematemesis, weakness, shortness of breath, jaundice, abdominal bloating, constipation

Possible Risk Factors: Recent travel, recent antibiotic use, NSAIDs, oral steroids, alcohol abuse, hepatitis and/or cirrhosis, gallbladder disease, history of pancreatitis

Possible Workup/Treatment: Stool Cx, C. diff assay, CBC, CMP, radiology studies (CT abd/pelvis, flat plate, obstructive series), IVF, carafate, proton pump inhibitors (Prevacid, omeprazole, Prilosec, Protonix, Nexium), IVF

BREAKING DOWN THE INDICATORS: IS ANEMIA PRESENT?

- Is there bleeding (occult or frank) from the GI tract (upper or lower)? Is there history of varices, peptic ulcer disease, or colitis?
- Has there been a recent surgery prior to the current encounter?
- Are there symptoms of shortness of breath, weakness, pallor accompanying low H/H, RBC, platelets?
- Has the patient received treatment for low H/H or intravascular fluids (IVF) that would cause dilution?

Document abdominal pain "due to" or "likely from" in progress notes AND discharge summary!

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NAUSEA, VOMITING, DIARRHEA, FEVER, CONSTIPATION

- Is there a positive stool assay for clostridium or bacteria/ova/parasite?
- Is there leukocytosis, neutropenia, left shift differential, elevated liver enzymes or bilirubin?
- Is there history of ulcerative or Crohn's colitis?
- Has the patient been exposed to toxic pharmaceutical drugs or radiation?
- Is there a procedure note, operative report or a pathology report?

Principal Diagnosis	Code(s)	MS-DRG	Weight
Unspecified abdominal pain	R10.9	392	0.7554
Nausea	R11.0	392	0.7554
Vomiting	R11.10	392	0.7554
Constipation	K59.00	392	0.7554
Diarrhea	R19.7	392	0.7554
Enterocolitis due to Clostridium difficile	A04.7	373	0.7576
Biliary acute pancreatitis	K85.1	440	0.6213
Acute cholecystitis	K81.0	446	0.7950
Acute gastric ulcer with hemorrhage	K25.0	379	0.6532
Toxic gastroenteritis	K52.1	395	0.6765
Diverticulitis of large intestine with perforation and abscess w/ bleeding	K57.21	378	0.9903
Malignant neoplasm of sigmoid colon	C18.7	376	0.9157

****Notice that the weight of "unspecified abdominal pain" may or may not be greater than a more specific principal diagnosis.*** The ultimate goal in CDI is to facilitate clarity and integrity of the documentation in the medical record, allowing overall coding accuracy and compliance.

The result of the query may take you into another MDC category, and that's okay!

GI BLEED

FOR A MORE SPECIFIC MS-DRG: QUERY FOR THE CAUSE

The cause of all GI bleeds cannot be known. However, "GI bleed" is nonspecific documentation, and the cause of the GI bleed is more specific and accurate for the patient. When possible, this may need to be queried.

- **GI hemorrhage (MS-DRGs 377–379)**
- **Major esophageal disorders (MS-DRGs 368–370)**
  - Esophageal varices, congenital tracheo-esophageal fistula, etc.
- **Major GI disorders and peritoneal infections (MS-DRGs 371–373)**
  - Salmonella gastroenteritis, Clostridium difficile colitis, unspecified bacterial enteritis

- **As a secondary diagnosis, GI bleeding (hemorrhage) may impact the MS-DRG as an MCC if etiology is documented (e.g., esophageal ulcer with bleeding).**
- **Remember to query for type and chronicity of anemia if present!**
- **If patient admitted with chronic GIB unspecified and w/o further study, but PRBC transfused, query for PDX! Chronic anemia is a more defined, specific diagnosis.**

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- **Digestive malignancy (MS-DRGs 374–376)**
  - Neoplasm of …..(abdominal/digestive site)
- **Inflammatory bowel disease (MS-DRGs 385–387)**
  - Regional enteritis, ulcerative colitis

CODING GUIDELINE

67Y male p/w PMH ETOH cirrhosis of liver and portal hypertension presents with hematemesis and is admitted with upper GIB. He undergoes EGD but unable to perform banding. He is scheduled for transfer for TIPS. GIB will not be PDX; **Cirrhosis** (alcoholic or non-alcoholic) will be sequenced as PDX, and bleeding esophageal varices secondary becoming MCC. *(ICD10 Tabular Instructions)*

GI MALIGNANCY

HIGH-RISK

*"**GI mass**" will not code to "**neoplasm**" without specific documentation. Encourage documentation of "likely" or "probable" neoplastic mass at the time of discharge; query for specific documentation if pathology report exists or is pending.*

- If malignant, is this the primary site?
- Is there metastasis to another organ?
- A metastatic site is a CC. Query when appropriate!

GASTROPARESIS

Gastroparesis is defined as delayed emptying of gastric contents out of the stomach in the absence of obstruction. It is often associated with persistent nausea and vomiting in diabetic and post-gastric surgery patients and can lead to poor nutritional states. Sometimes physicians will document "intractable vomiting" instead of "gastroparesis."

- Is the patient a diabetic?
- Is there an elevated HgA1C and/or labile blood glucose levels?
- Is the patient administered Reglan? Erythromycin?

Gastroparesis 2/2 to diabetes mellitus can be assumed! If a link is established between DM and gastroparesis, the ICD-10 tabular instructions sequences E11.43 (type 2 DM) with diabetic autonomic (poly) neuropathy as the principal diagnosis and K31.84 (gastroparesis) as secondary. If the physician specifies another reason for gastroparesis, then the relationship would not be assumed. DM gastroparesis takes us to MS-DRG 074.

INTESTINAL OBSTRUCTION AND LYSIS OF ADHESIONS

The **etiology** of the bowel obstruction is significant when surgery is required to restore bowel function. Prior abdominal surgeries and/or a history of intestinal or abdominal infections can sometimes result in the formation of **adhesions** that compromise the function of the bowel. When the operative report specifies or depicts a significant "lysis of adhesions" delaying the initial procedure, lysis of adhesions may be coded.

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LYSIS OF ADHESIONS

Coders and CDI specialists should not code adhesions and lysis ***based solely on mention of adhesions or lysis in an operative report.*** Determination as to whether the adhesions and the lysis are significant enough to code and report must be made by the surgeon.

Adhesions from previous surgery are the most common cause of intestinal obstruction in the United States. When such obstruction is present, lysis of adhesions is usually the major procedure performed and both the diagnosis of adhesions and the procedure for lysis should be coded. Occasionally, obstruction is not present, but a strong band of adhesions prevents the surgeon from access to the organ being removed, requiring lysis before the operation can proceed. In this case, both the diagnosis of adhesions and the lysis procedure should be coded.

Frequently, however, adhesions may exist without being organized and without causing any symptoms in the patient or increasing the difficulty of performing the operative procedure. When such minor adhesions exist and are easily lysed as part of the principal procedure, it is appropriate to code a diagnosis of adhesions and the procedure of lysis of adhesions.

For example, some adhesions around the gallbladder are common and may be lysed as an integral part of the cholecystectomy. In such a case, this is an incidental finding and coding of adhesions or their lysis would rarely be appropriate. Occasionally, the gallbladder is so encased in a strong band of adhesions that extensive lysis is required before the gallbladder is removed. In this case, coding of the adhesions and lysis would be appropriate. *(Coding Clinic, 1st qtr. ICD-10 2014, page 4)*

CODING GUIDELINE *AHA CODING CLINIC FOR ICD-10* (1ST Q 2014, VOL. 1, NUMBER 1)

QUESTION: A 69-year-old man with recurrent incisional hernia is admitted to undergo an incisional herniorrhaphy with mesh. An incision was made in the midline and carried through the skin and subcutaneous tissue. A large hernia sac was encountered. The fascia was dissected off both the right and left of the midline and the hernia sac was divided and removed. The surgeon documented within the operative report that the patient had some adhesions of the omentum and abdominal wall, which were freed as well. **There was no separate documentation of the clinical significance of the adhesions.** Is it appropriate to assign a diagnosis code for adhesions and a procedure code for lysis in this case?

ANSWER: No, do not assign codes for the adhesions of the omentum and abdominal wall nor the adhesiolysis, since there was no indication of their clinical significance documented by the surgeon within the body of the operative report. According to the *ICD-10-PCS Official Guidelines for Coding and Reporting*, B3.1b, "Procedural steps necessary to reach the operative site and close the operative site, including anastomosis of a tubular body part, are also not coded separately." Coders should not code adhesions and lysis thereof, based solely on mention of adhesions or lysis in an operative report. Determination as to whether the adhesions and the lysis are significant enough to code and report must be made by the surgeon. Documentation of clinical significance by the surgeon may include, but is not limited to, the following language: numerous adhesions requiring a long time to lyse, extensive adhesions involving tedious lysis, extensive lysis, etc. If uncertainty exists regarding clinical significance, then query the provider.

ICD-10 PCS ON LYSIS OF ADHESIONS

ICD-10 PCS uses the root operation "release" to specify when a body part is released from an abnormal constraint. Since ICD-10 PCS provides more specific body parts, the body part that is released

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in a lysis procedure determines the correct code. The surgeon will need to document the exact body part or parts that are released during lysis.

If it is unclear if the adhesions and lysis thereof are "significant," a query should be placed to the physician asking for clarification.

MDC 6: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the digestive chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity Drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Anorexia Cirrhosis of liver CKD stage 3 DM uncontrolled Dysphagia Eating disorder	Electrolyte/Fluid disorder Failure to thrive, adult Hypercalcemia Hypocalcemia Hyperkalemia Hypotension	Nutritional deficiency Oliguria/Anuria Thrombocytopenia Vitamin deficiency Vitamin D deficiency
Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/Alkalosis Acute kidney injury Acute renal failure Acute myocardial ischemia without MI, adult or child Maltreatment (unspecified, neglect, physical or sexual abuse) Alcohol use, unspecified with various disorders Alcoholic withdrawal Delirium alcohol withdrawal Anal or rectal abscess Anemia, acute blood loss (ABLA) Anemia, blood loss post-op (post-op ABLA) Anorexia nervosa, bulimia nervosa Aphasia, unspecified Ascites bacteremia Bleeding, anal/rectal (blood in stool, melena) BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity)	C. difficile enteritis Cachexia/emaciated Cancer (mets) Candidiasis of mouth or urogenital sites Carcinomatosis Cardiomyopathy (unspecified, alcoholic) Cellulitis/abscess Cholangitis Cholecystitis, acute CKD stage 4 and 5 Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Enteritis, bacterial Enteritis, E. coli Esophageal ulcer GI bleed Hematemesis/Hemoptysis Hepatitis C, acute, without coma Hypo- and hypernatremia Ileus Intestinal abscess Intestinal impaction Intestinal obstruction Intussusception	Jaundice Malnutrition, protein-calorie (mild, moderate, unspecified) Neurogenic bowel obesity Hypoventilation syndrome Opioid dependence Pancreatic cyst, pseudocyst Pancreatitis, chronic Pancytopenia, unspecified Paralytic ileus Portal hypertension post-op Hypoinsulinemia (post-pancreatectomy) Respiratory failure, chronic SBO Shock, postoperative, unspecified Shock, unspecified SIRS, noninfectious without acute organ dysfunction Stoma complications Viral hepatitis

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Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Abdominal aneurysm, ruptured Abscess, liver, lung, mediastinum Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) Biliary obstruction Candidiasis, disseminated Coma Cystic fibrosis w/ meconium Defibrination syndrome or disseminated intravascular coagulation (DIC) Diabetes, hyperosmolar with or without coma (Determine POA If it develops during inpatient stay HAC.) Diabetes with coma	Diabetes with ketoacidosis (Determine POA If it develops during an inpatient stay HAC.) Duodenal ulcer with hemorrhage, acute Encephalopathy (metabolic, toxic, septic) Esophageal ulcer with bleeding ESRD Hemoperitoneum Hemorrhagic gastritis Hepatic coma or hepatic encephalopathy (acute/subacute) Hepatorenal syndrome Liver necrosis, acute/ subacute Mallory-Weiss tear	Malnutrition, protein-calorie (severe, nutritional marasmus) Pancreatitis, acute Pancytopenia 2/2 to chemotherapy Pancytopenia 2/2 to other drug Perforation of bile duct/ gallbladder Perforation of intestine Peritonitis Portal vein thrombosis Respiratory arrest Schatzki's ring, congenital Sepsis, severe Sepsis, septic Shock (as SDX) Shock, hemorrhagic Hypovolemic Septic Shock, liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction Volvulus

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MDC 6 CASE STUDIES

CASE STUDY 1

A 72 y/o male with history of DM2, HTN, PUD, and ETOH abuse presents with constipation for 3 days, abdominal pain and distention. CBC, BMP and abdominal CT are done in the ER and he is given NS IV at 125ml/hr, and IV Zofran x1. H/H is 12.1/29.9, bun 15, creatinine 1.0, GFR >60. Radiology study reveals a sigmoid mass and the patient undergoes a right colon resection with EBL 200ml. Post operatively, he is managed with IV morphine, IV Protonix, and was given 1 unit PRBCs. His bowel function returned, he was restarted on Carafate, his diet was advanced, and he was d/c to home. Documentation consists of:

PROBLEMS:

- Sigmoid mass – still awaiting pathology
- POD#3 s/p right colon resection; Incision CDI, drsg dry, continue current management. Encourage ambulation, IS q1hr W/A. Change to oral Protonix, and restart Carafate per GI recommendations
- Anemia - Transfused 1U PRBC, H/H increased appropriately, suspect chronic gastritis
- D/C to home; follow up with Oncology

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

56 y/o female with PMH Hepatitis C, cirrhosis of liver, portal hypertension and DM presents with hematemesis and nausea. She is admitted with upper GI bleed, and underwent endoscopy and EGD for banding of presumed esophageal varices. Meds include: NS 125ml/hr, lactulose TID, Norvasc, metformin. Labs: H/H 13.3, 33.5. The Operative/EGD note has not been uploaded for dictation - documentation in the D/C summary reads:

PROBLEMS:

- Hematemesis with history of cirrhosis
- Anemia
- Nausea

HOSPITAL COURSE: Patient presented with hematemesis. Endoscopy done, patient tolerated well, did not require blood transfusion. Set up appt for H&H next week, advanced diet to solids prior to D/C. Pt ambulating.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 7: DISEASES AND DISORDERS OF THE HEPATOBILIARY SYSTEM AND PANCREAS

DEFINING UNDERLYING CAUSE

Patients that present with a **symptom** such as jaundice, ascites, abdominal pain, and transaminitis may require clarification and an associated diagnosis or cause of the symptoms. In order to best assign principal and secondary diagnoses the CDI specialist will require an understanding of the hepatobiliary and pancreatic systems and of MDC 7. Common diagnoses in this MDC includes:

- Pancreatitis
- Cholecystitis
- Choledocholithiasis (gallstones), cholelithiasis and cholangitis
- Viral hepatitis
- Cirrhosis
- Hepatic encephalopathy
- Shock liver.

PANCREATITIS

Pancreatitis is a condition characterized by inflammation of the pancreas. The most common causes are alcohol consumption, gallstones, elevated triglyceride levels, abdominal injury or surgery, and particular medications. Symptoms usually include severe abdominal pain that is often worse after eating, nausea and/or vomiting, abdominal tenderness, fever or chills, and changes in stool color. It can be acute, which generally develops suddenly and is short term or chronic which typically develops after multiple episodes of pancreatitis. *(MedicineNet, 2015)*

The most sensitive test to detect pancreatitis is the one that detects elevated lipase levels. However, in ***hyperemesis gravidarum*** (a severe manifestation of nausea and vomiting in pregnancy), it is not unusual to see dramatic increases in lipase levels that are not due to pancreatitis.

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Possible Clinical Indicators: Abdominal pain with radiation to back, nausea/vomiting, hypotension as reaction to SIRS, loss of appetite, fever, jaundice, elevated lipase and/or amylase levels, transaminitis, decreased bowel sounds due to pancreatic inflammation

Possible Risk Factors: Gallstones, hepatic system or pancreatic cancer, high triglycerides, infections, medications, injury, excessive alcohol intake

Possible Treatment: GI rest with NG tube and NPO status, TPN for nutritional support, IV pain medications and antiemetics, trending amylase and lipase, radiographic studies (endoscopic retrograde cholangiopancreatogram [ERCP], MRCP)

Though pancreatitis is inflammation not usually associated with infection, if a patient is admitted for acute pancreatitis make sure to review the record for SIRS or sepsis criteria. Also be mindful if the physician states that SIRS D/T infectious pancreatitis. A query will be needed for clarification as SIRS is related to noninfectious causes.

- Sepsis 2/2 to acute pancreatitis (POA or not)
- Noninfectious SIRS 2/2 to acute pancreatitis without acute organ dysfunction
- Noninfectious SIRS 2/2 to acute pancreatitis with acute organ dysfunction
- Pancreatitis only – no SIRS or sepsis

Often patients with acute and/or chronic pancreatitis develop nutritional issues so it is imperative that the CDI specialist monitor for **malnutrition** indicators (to be further discussed in the MDC 10 chapter). If indicators are present a query would be appropriate to capture the type and severity of malnutrition. Severe protein calorie malnutrition will provide a MCC for this diagnosis while an unspecified protein calorie malnutrition, mild/moderate malnutrition and cachexia will provide a CC as a secondary diagnosis.

Below you can see the differences in the MS-DRG for disorders of the pancreas except malignancy:

MS-DRG	Relative Weight	GMLOS
MS-DRG 440 Disorders of the Pancreas except Malignancy without CC/MCC	0.6213	2.5 days
MS-DRG 439 Disorders of the Pancreas except Malignancy with CC	0.8623	3.2 days
MS-DRG 438 Disorders of the Pancreas except Malignancy with MCC	1.6382	4.6 days

ICD-10 PANCREATITIS

Diagnosis	Code(s)	CC or MCC?
Acute pancreatitis	K85.9	MCC
Idiopathic acute pancreatitis	K85.0	MCC
Biliary acute pancreatitis (gallstone pancreatitis)	K85.1	MCC
Alcohol-induced acute pancreatitis	K85.2	MCC

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Diagnosis	Code(s)	CC or MCC?
Drug-induced acute pancreatitis	K85.3	MCC
Other acute pancreatitis	K85.8	MCC
Alcohol-induced chronic pancreatitis	K86.0	CC
Other chronic pancreatitis (infectious, recurrent, relapsing)	K86.1	CC
Pancreatic cyst	K86.2	CC
Pancreatic pseudocyst	K86.3	CC
Other specified diseases of pancreas (necrosis, calculus, atrophy, cirrhosis, fibrosis)	K86.8	-
Disease of pancreas, unspecified	K86.9	-

Remember: The above MCC/CC rules only apply if the diagnosis is a secondary diagnosis.

CHOLECYSTITIS

Cholecystitis is inflammation of the gallbladder, an organ that holds digestive fluid (bile) that's released into the small intestine. In many cases gallstones blocking the tube leading out of the gallbladder cause cholecystitis, resulting in bile buildup that can cause inflammation. Other causes of cholecystitis include bile duct problems and tumors. An initial symptom of cholecystitis is upper right abdominal pain. Treatment often includes gallbladder removal.

CHOLEDOCHOLITHIASIS (GALLSTONES), CHOLELITHIASIS AND CHOLANGITIS

Choledocholithiasis is the presence of at least one gallstone in the **common bile duct**; the stones can form in the gallbladder or in the ducts themselves. These stones cause biliary colic, biliary obstruction, gallstone pancreatitis, or cholangitis (bile duct infection and inflammation). *(Merck Manual Online, 2016)*

Cholelithiasis involves the presence of gallstones, which are concretions that form in the biliary tract, usually in the **gallbladder**. *(Medscape 2016)*

Cholangitis, in turn, can lead to strictures, stasis, and choledocholithiasis. Diagnosis usually requires visualization by magnetic resonance cholangiopancreatography or ERCP. In acute cholangitis, bile duct obstruction allows bacteria to ascend from the duodenum. Most (85 percent) cases result from common bile duct stones. Common infecting organisms include gram-negative bacteria. *(Merck Manual Online, 2016)*

CHOLECYSTECTOMY

When reviewing operative reports for cholecystectomy it is important to know two things:

- The approach (laparoscopic vs. open)
- If there was exploration/dilation of the common bile duct, sphincter of Oddi dilation, ampulla of Vater hepatotomy.

The chart will clarify the differences of MS-DRGs based on the surgical intervention documentation. You will see that there are significant differences in the relative weights and length of stays. Reading operative reports carefully will be significant for the coding of this procedure. In addition to reading,

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the CDI specialist must be aware of tools used and verbiage within the body of the report that may be used as triggers for queries for clarification and specificity of procedures performed.

The underlying diagnosis when this procedure is performed is generally acute cholecystitis, cholelithiasis or gallstone cholecystitis. **Also look for indicators that may provide considerations for sepsis, perforation, peritonitis, or abscess that may have ruptured.**

If there is dilation of sphincter of Oddi or ampulla of Vater

(Tools the surgeon may use include: Fogerty, Olive, Debakey.)

MS-DRG	Relative Weight	GMLOS
MS-DRG 410 Biliary Tract Procedures Except Only Cholecystectomy with or without CDE without CC/MCC	1.6526	3.7
MS-DRG 409 Biliary Tract Procedures Except Only Cholecystectomy with or without CDE with CC	2.3227	5.6
MS-DRG 408 Biliary Tract Procedures Except Only Cholecystectomy with or without CDE with MCC	4.0465	9.2

The only way you may know that this is the surgery that is performed may be based on the tools the surgeon utilizes. Query if necessary!

EXPLORATION OR DILATION OF COMMON BILE DUCT AND CHOLECYSTECTOMY

MS-DRG	Relative Weight	GMLOS
MS-DRG 413 Cholecystectomy with CDE without CC/MCC	1.6862	3.5
MS-DRG 412 Cholecystectomy with CDE with CC	2.3819	5.5
MS-DRG 411 Cholecystectomy with CDE with MCC	3.9981	8.3

OPEN CHOLECYSTECTOMY WITHOUT COMMON BILE DUCT EXPLORATION

MS-DRG	Relative Weight	GMLOS
MS-DRG 416 Cholecystectomy Except By Laparoscope Without CDE Without CC/MCC	1.3931	3.2
MS-DRG 415 Cholecystectomy Except By Laparoscope Without CDE With CC	2.0188	5.2
MS-DRG 414 Cholecystectomy Except By Laparoscope Without CDE With MCC	3.5772	8.0

LAP CHOLECYSTECTOMY WITHOUT COMMON BILE DUCT EXPLORATION

MS-DRG	Relative Weight	GMLOS
MS-DRG 419 Lap Cholecystectomy without CDE without CC/MCC	1.3042	2.5
MS-DRG 418 Lap Cholecystectomy without CDE with CC	1.6642	3.7
MS-DRG 417 Lap Cholecystectomy without CDE with MCC	2.4234	5.4

Again, as a CDI specialist you may be "reading between the lines" of documentation. Based on the operative notes, approach, and the tools used, you need to ensure that the accurate procedure is coded out.

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VIRAL HEPATITIS

Viruses that primarily attack the liver account for roughly half of all diagnosed hepatitis. There are several types of viral hepatitis, with the most common being A, B and C. The hepatitis virus multiplies in liver cells leaving the liver disabled to perform its primary functions that were mentioned previously.

It is important for a CDI specialist to clarify and understand the difference between acute and chronic hepatitis. **As a general principle, chronic viral hepatitis is diagnosed when the virus remains and multiplies in the body after six months**. Over time chronic viral hepatitis can lead to cirrhosis, liver failure and liver cancer. It is important for CDI staff to clarify the type of virus and the acuity and to know whether the hepatitis virus was the result of another infection.

ICD-10 TOXIC LIVER DISEASE AND HEPATIC FAILURE

Diagnosis	Code(s)	CC or MCC?
Toxic liver disease with hepatic necrosis without coma	K71.10	-
Toxic liver disease with hepatic necrosis with coma	K71.11	MCC
Toxic liver disease with acute hepatitis	K71.2	-
Toxic liver disease with chronic persistent hepatitis	K71.3	-
Toxic liver disease with chronic active hepatitis without ascites	K71.50	-
Toxic liver disease with chronic active hepatitis with ascites	K71.51	-
Acute and subacute hepatic failure without coma	K72.00	MCC
Acute and subacute hepatic failure with coma	K72.01	MCC
Hepatic failure, unspecified with coma	K72.91	MCC
Abscess of liver	K75.0	MCC
Portal HTN	K76.6	CC
Hepatorenal syndrome	K76.7	MCC

CIRRHOSIS

Cirrhosis is a complication of many liver diseases that cause the loss of liver cells and irreversible damage to the liver. The resultant changes in liver structure and liver function due to these disease processes is what leads to cirrhosis. Many causes can be attributed to liver cirrhosis including chemicals, viruses, toxic metals and auto-immune liver disease.

The liver provides many important processes in the body. For example, it:

- Removes toxic byproducts of many medications
- Stores nutrients and vitamins thus avoiding shortages during times of need
- Metabolizes nutrients from our food to provide energy
- Filters bacteria from the blood to fight infection
- Plays a pivotal role in regulating blood clotting
- Produces most proteins needed for the body.

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When there is damage to the liver because of cirrhosis, the filtering mechanisms and storage mechanisms of the liver are interrupted. Scarring develops and often causes obstructions in the portal venous system causing portal HTN. Also there is interruption in bile flow through the hepatic system into the intestines sthat prevents the digestion of food and the breakdown and excretion of toxins through the GI tract. *(MedicineNet, 2015)*

Possible Clinical Indicators: Jaundice, fatigue, weakness, loss of appetite, confusion, n/v, nosebleeds, bleeding gums, spider-type vessels on the skin, swelling or fluid build up, vomiting blood, blood in stool, bruising, pale-/clay-colored stool, elevated albumin, low platlets, abnormal LFTs, coagulopathy, anemia, fatty liver

Possible Risk Factors: Alcoholism or abuse, obesity, drugs /toxins, blocked bile ducts, age, hepatitis

Possible Treatment: Lactulose, paracentesis (for ascites), nutritional intervention, treatment for alcohol withdrawal, alcohol counseling, treatment of any complications (i.e., blood transfusions for anemia, platelets for thrombocytopenia, EGD to diagnose bleeding, treatment of infections if present)

CODING GUIDELINE

Patient presents with GI bleed ➡ 2/2 to cirrhosis ➡ 2/2 to alcoholism. The patient's principal diagnosis will be the alcoholic cirrhosis. The bleeding esophageal varices will be a secondary diagnosis.

If a patient presents with hematemesis and after work-up it is found that the cause is varices without cirrhosis, the varices will be the principal diagnosis.

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (2ND Q 2015, VOL. 2, NUMBER 2)

QUESTION: The Index entry for Alcohol, withdrawal, leads to code F10.239, Alcohol dependence with withdrawal. However, only alcohol abuse is documented by the physician. **In ICD-10-CM, how is alcohol abuse with alcohol withdrawal coded?**

ANSWER: In ICD-10-CM, alcohol withdrawal is categorized as alcohol dependence, by default. The classification provides a combination code for alcohol dependence with alcohol withdrawal. Therefore query the provider for clarification, when alcohol abuse and alcohol withdrawal are both documented in the health record.

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ICD-10 ALCOHOL LIVER DISEASE

Diagnosis	Code(s)*	CC or MCC?
Alcoholic liver disease, unspecified	K70.9	-
Alcoholic fatty liver	K70.0	-
Alcoholic hepatitis without ascites	K70.10	-
Alcoholic hepatitis with ascites	K70.11	-
Alcoholic fibrosis and sclerosis of liver	K70.2	-
Alcoholic cirrhosis of liver without ascites	K70.30	-
Alcoholic cirrhosis of liver with ascites	K70.31	
Alcoholic pancreatitis , acute, or chronic	K85.2, K86.0	MCC, CC
Alcoholic hepatic failure without coma	K70.40	-
Alcoholic hepatic failure with coma	K70.41	MCC

**Use additional code to identify alcohol dependence or abuse.*

HEPATIC ENCEPHALOPATHY

Due to the inability of the liver to function normally in liver disease (cirrhosis, end-stage liver disease, liver cancer), there can be deterioration in brain dysfunction because of the build-up of toxic substances that would normally be excreted through the liver under ideal circumstances. In general, encephalopathy is considered a complication of a primary problem such as alcoholism, cirrhosis, kidney failure or anoxia.

Possible Clinical Indicators: Confusion, personality changes, drowsy, changes in mood and behavior, elevated ammonia, tremors

Possible Risk Factors: Liver disease, drug use, alcoholism, medical non-compliance

Possible Treatment: Administration of lactulose for elevatied ammonia levels, treatment of alcohol withdrawal if present, low protein diet

Hepatic encephalopathy that is not specified as acute, subacute or with coma will not provide a CC or MCC. It is imperative for the CDI specialist to query when "hepatic encephalopathy" is documented. A query will be needed to document the following:

- Acute hepatic encephalopathy (MCC)
- Subacute hepatic encephalopathy (MCC)
- Acute hepatic encephalopathy with coma (MCC)
- Hepatic encephalopathy, postprocedural (CC)
- Chronic hepatic encephalopathy
- Hepatic encephalopathy, unspecified

Make sure the diagnosis is supported and clinically validated with appropriate indicators. Remember: CDI specialists do not query for diagnoses inappropriately!

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SHOCK LIVER

Shock liver (which codes to "acute and subacute hepatic failure without coma [K72.00]") is an often overlooked diagnosis in documentation. **As a secondary diagnosis, it codes to an MCC and meets criteria for "end-organ damage" in diseases like sepsis**. What exactly is shock liver or acute liver failure?

"The clinical syndrome of "shock liver," also known as ischemic hepatitis, is characterized by sudden elevation (to more than 20 times the upper limit of normal) of SGOT and SGPT in response to cellular anoxia, followed by resolution to near normal levels within seven to ten days. In our experience with ten cases, systemic hypotension was documented in only four, but processes characterized by decreased cellular perfusion were identified in all and included cardiac failure or arrhythmia, sepsis, cerebrovascular accidents, renal failure, and chronic obstructive pulmonary disease. We were also able to document the transient rise in serum bilirubin and alkaline phosphatase levels and prolonged prothrombin time that followed the transaminase elevations by 24 to 48 hours in most cases, followed by rapid resolution." *(Rawson, 1985)*

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (2ND Q 2014, VOL. 1, NUMBER 2)

QUESTION: A patient was admitted to our facility with acute on chronic systolic heart failure and found to be in cardiogenic shock with acute renal failure and acidosis. The physician documented that the patient had "shock liver" as well. What is the correct diagnosis code for shock liver in ICD–10-CM?

ANSWER: Assign code K72.0-, Acute and subacute hepatic failure, for shock liver. The assignment of the fifth digit would be dependent on the presence or absence of coma.

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (2ND Q 2015, VOL. 2, NUMBER 2)

QUESTION: The patient was diagnosed with acute liver injury as well as acute hepatitis, non-viral. Code S36.119, Unspecified injury of liver, does not seem to apply since there was no documentation of a traumatic injury to the liver. How should nontraumatic acute liver injury be coded?

ANSWER: Code the exact nature of the liver problem, if known. If the etiology of the liver injury is not clearly documented, query the provider for clarification. For this example, assign code K72.00, Acute and subacute hepatic failure without coma, for non-viral acute hepatitis.

In ICD-10-CM there is no Index entry for "acute hepatitis, non-viral." However, the Alphabetic Index, under the term "Hepatitis" leads to code K75.9, Inflammatory liver disease, unspecified. Code K75.9 has an Excludes 1 note: acute or subacute hepatitis (K72.0-).

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CIRRHOSIS AND CONFUSION CLARIFICATION: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient with cirrhosis and current confusion/hallucinations

Can you further specify if we are treating this patient for one of the following diagnoses?

- Acute hepatic encephalopathy
- Subacute hepatic encephalopathy
- Chronic hepatic encephalopathy
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Ammonia level 141, + confusion, hallucinations ("bugs crawling on me"), distended abdomen, and tremors

Risk Factors: Cirrhosis

Treatment: Lactulose started, monitoring ammonia levels, moved closer to the nursing station for better monitoring, q2h neuro checks

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

SHOCK LIVER CLARIFICATION: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient with elevated liver enzymes and "transaminitis"

Can you further specify if we are treating this patient for one of the following diagnoses?

- Shock liver
- Acute and subacute hepatic failure without coma
- Acute and subacute hepatic failure with coma
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: On-admission ALT 968, AST 342, bilirubin 12.1, and patient mildly jaundiced with malaise

Risk Factors: Sepsis with septic shock

Treatment: IV fluids, treating the sepsis, monitoring liver lab values daily

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

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MDC 7: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Hepato chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity Drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Anorexia CHF, unspecified Left heart failure with right-sided heart failure	Cirrhosis of liver CKD stage 3 Eating disorder Electrolyte/Fluid disorder	Failure to thrive, adult Nutritional deficiency Oliguria/Anuria Thrombocytopenia
Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/Alkalosis Acute kidney injury/acute renal failure Adult or child maltreatment (unspecified, neglect, physical or sexual abuse) Alcohol dependence w/ alcohol-induced dementia Alcohol dependence w/ alcoholic chronic brain syndrome Alcohol use unspecified with various disorders Alcoholic withdrawal delirium, alcohol withdrawal Anemia (ABLA) Ascites bacteremia)	Bleeding, anal/rectal BMI ≤ 19, BMI > 40 (**with linked** diagnosis – underweight, morbid obesity) C. difficile enteritis Cachexia/Emaciated Cardiomyopathy (unspecified, alcoholic) CHF or heart failure: systolic/diastolic/combined Chronic left heart failure Cholangitis Cholecystitis, acute CKD, stage 4 and 5 Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Enteritis, bacterial, E. coli Esophageal ulcer GI bleed	Hallucinations Hematemesis/Hemoptysis Hep C, acute w/out coma Hypo and hypernatremia Ileus Jaundice Malnutrition, protein-calorie (mild, moderate, unspecified) Obesity hypoventilation syndrome Pancreatic cyst, pseudocyst Pancreatitis, chronic Pleural effusion Portal hypertension Respiratory failure, chronic Shock, unspecified SIRS, noninfectious without acute organ dysfunction Stoma complications Viral hepatitis

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Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Abscess, liver, lung, mediastinum Acute renal failure w/ acute tub. necrosis Acute respiratory failure, acute-on-chronic respiratory failure Biliary obstruction CHF, systolic/diastolic/combined, acute or acute on chronic Coma DIC Duodenal ulcer with hemorrhage, acute Encephalopathy (metabolic, toxic, septic) Esophageal ulcer with bleeding ESRD Hemorrhagic gastritis Hepatic coma or hepatic encephalopathy (*acute/subacute) Hepatorenal syndrome	Liver necrosis, acute/subacute Mallory-Weiss tear Malnutrition, protein-calorie (severe nutritional marasmus) Pancreatitis, acute Perforation of bile duct/gallbladder Perforation of intestine Peritonitis Pneumonia—all (including aspiration PNA) Portal vein thrombosis Quadriplegia, functional quadriplegia Schatzki's ring, congenital Sepsis, severe sepsis, septic shock (as SDX) Shock—hemorrhagic hypovolemic shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction

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MDC 7 CASE STUDIES

CASE STUDY 1

47 y/o male who has known history of alcoholism is brought to the ED by EMS with AMS. He has heavy odor of alcohol on his breath and mumbles when he answers questions. He is unable to provide information. Vital signs are stable; labs demonstrate decreased platelets, elevated liver enzymes with normal amylase and lipase. BUN: 16, Creat: 1.0, Ammonia level 106, Albumin: 2.5, Total Protein 6.5. Alcohol level is 0.382. Patient in the ED and patient remains confused. He is admitted to step-down unit with alcohol intoxication, chronic alcoholism and AMS. Patient is started on lactulose. On the following day patient remains with AMS although more awake, he is noted to have tremors and is having nausea and vomiting. Labs demonstrated WBC: 7.9, H&H: 11.8/37.4, Plt: 78, Na: 134, K: 2.9, BUN: 48, Creat: 2.1, Ammonia: 72. Alcohol level: 0.06. You see the following documentation in the patient's record:

2/1/16 PROGRESS NOTE:

1) Alcohol intoxication, chronic alcoholism
2) AMS possible due to alcohol intoxication. Will hydrate and monitor for symptoms of withdrawal. AMS will probably improve as alcohol level returns to baseline.

2/2/16 PROGRESS NOTE:

1) Alcohol intoxication. Patient says he is "coming down" + for chronic alcohol abuse.
2) Patient remains confused to place, time and events. He is able to state his name and accurate DOB. Patient is noted to have tremulous movements to hands and per nurses notes had been having vomiting. Will continue Lactulose and IV fluids. Monitor kidney function and repeat labs tomorrow.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

Patient is 45 y/o male admitted for elective laparoscopic cholecystectomy who has no other health history except overweight (BMI 48.2) and is not on any regular medications. Patient op report as noted below. Patient does well with surgery and is kept in extended recovery overnight. AM labs demonstrate CBC and CMP that are within normal parameters and patient is discharged home.

PROBLEMS:

- Post-Op Dx: Abd pain, chronic cholecystitis and cholelithiasis, gallbladder hydrops and stricture in common bile duct.
- Procedure: Lap Chole, intraoperative cholangiography, and dilation of CBD stricture

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 8: DISEASES AND DISORDERS OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE ("ORTHO")

BACK PAIN

High-Risk MS-DRG 552 Medical Back Problems without MCC

High-Risk MS-DRG 551 Medical Back Problems with MCC

WHAT IS CAUSING THIS SYMPTOM?

Nearly everyone will suffer from back pain at some point in their lives. Most episodes of back pain resolve spontaneously and are due to strain or injury.

However, very few people present to the emergency room because of back pain. Medicare and other insurance providers frequently do not consider "back pain" a reason for an inpatient admission, and these MS-DRGs are at very high risk of being denied for not meeting inpatient criteria.

When possible, it is highly recommended to define the cause of the back pain. Some causes to consider are:

- Urinary tract infection (UTI)
- Fracture(s)
- Connective tissue disorders (osteogenesis imperfecta, lupus)
- Trauma
- Degenerative joint disease (DJD).

Unfortunately, when it comes to back pain, there is not always a cut-and-dry cause. If the cause of a patient's back pain is unclear, the CDS should query the physician in an attempt to clarify. Unfortunately, even if you do get the cause of the back pain clarified—let's say, the cause is a compression fracture, you may still end up with a high-risk MS-DRG.

FRACTURES

INCREASED SPECIFICITY IN ICD-10

When it comes to documentation for fractures, things seem pretty straightforward. However, in ICD-10 there are demands for increased specificity. As you are reviewing records, keep the following things in mind.

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What do I Need to Do?

When it comes to fractures, the biggest responsibility of a CDS is making sure there are no missing pieces. One of the newest aspects of documentation in ICD-10 is identifying laterality. If any of the topics discussed here are **missing** or **undocumented**, query for increased fracture specificity. This may not have a normal CDI effect on a chart; it may not move the MS-DRG. However, it can tremendously assist coders in identifying diagnoses and may even prevent a bill stop.

Document the Cause:

- Trauma
- Stress
- Pathologic
- Other (specify)

Document the Location:

- Which bone?
- Which part of the bone?
- Laterality: right, left, bilateral

Document the Type:

- Displaced
- Non-displaced
- Open (Gustilo classification where applicable)
- Closed (greenstick, spiral, etc.)
- Salter-Harris (specify type)

Document the Encounter Type:

- Initial encounter ("acute")
- Subsequent encounter
- Sequela

Most inpatients usually present for the "initial encounter." If the reason for inpatient admission is subsequent encounter, make sure the following is documented:

- Routine healing
- Delayed healing
- Nonunion
- Malunion

Document the External Cause for the Fracture

- Skiing, motor vehicle accident (MVA), football, fall, etc.

Document any Associated Diagnoses or Conditions:

- Rhabdomyolysis
- Embolism
- Other associated fractures
- Other associated injuries

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PATHOLOGIC FRACTURES

A NEW CONCEPT FOR MANY CDI SPECIALISTS

A pathologic fracture is a fracture that occurs in diseased bone that would not have occurred in healthy bone. It is considered a "low-energy" fracture; that is, it usually occurs at low levels or when a person is participating in activities that should not cause a fracture. Documentation may indicate that a patient stated, "I was just standing up singing in church and heard a pop." It is a fracture **not** due to trauma. Other synonymous terms for pathologic fracture include:

- Nontraumatic fracture
- Insufficiency fracture
- Spontaneous fracture
- Nontraumatic compression fracture

The *3M ICD-10-CM Codebook*, 2015 lists the following as causes of pathologic fractures.

- **Osteoporosis:** Abnormal loss of bony tissue resulting in fragile or porous bones attributable to a lack of calcium; most commonly found in postmenopausal women. Common drugs used to treat osteoporosis include Fosamax, Boniva, and calcium supplements. ***Osteopenia*** is low bone calcium; it is not as severe as osteoporosis. However, it does qualify as "diseased bone" if the patient is being treated for it.
- **Paget's disease:** Chronic disease, mostly in men, that causes enlarged or deformed bones leading to bone fracture. Common drugs used to treat Paget's disease include Didronel, Fosamax, Aredia, and calcitonin.
- **Disuse atrophy:** Loss of mass and strength of the bone that can occur after prolonged immobility such as extended bed rest. Frequently seen in advanced age and paraplegic/quadriplegic patients.
- **Hyperparathyroidism:** Excessive production of parathyroid hormone (PTH), which causes increased levels of calcium and decreased levels of phosphorus that leads to declined bone density.
- **Osteomyelitis** is defined as a bone infection.

WHY DOES GETTING THIS CLARIFIED MATTER?

It is important to determine if your patient's fracture is pathologic in nature. These patients are often more difficult to care for than, say, a 33-year-old patient who fractured a leg bone in a mountain biking accident. These patients are often older and have other serious CC and MCC in place. Also, let's take a look at the MS-DRG set-up:

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Principal Diagnosis	Secondary Diagnoses	MS-DRG	SOI & ROM	RW	GMLOS
Femur fracture	-	MS-DRG 534 Fractures of Femur without MCC	1/1	0.7755	2.9 days
Femur fracture	Chronic respiratory failure (CC)	MS-DRG 534 Fractures of Femur without MCC **MS-DRG only changes with an MCC!*	2/1	0.7755	2.9 days
Femur fracture	Aspiration PNA (MCC)	MS-DRG 533 Fractures of Femur with MCC	3/2	1.5305	4.2 days
Pathologic femur fracture	-	MS-DRG 544 Pathological Fractures & Musculoskeletal & Conn Tissue Malignancy without CC or MCC	1/1	0.7984	2.8 days
Pathologic femur fracture	Chronic respiratory failure (CC)	MS-DRG 543 Pathological Fractures & Musculoskeletal & Conn Tissue Malignancy with a CC	2/1	1.0725	3.7 days
Pathologic femur fracture	Aspiration PNA (MCC)	MS-DRG 542 Pathological Fractures & Musculoskeletal & Conn Tissue Malignancy with a MCC	3/2	1.8253	5.2 days

Notice above: When a fracture can be better or more accurately specified as pathologic (when the patient meets criteria), the MS-DRG also becomes more flexible and changes from a doublet to a triplet. Remember, a "triplet" MS-DRG is one that increases in relative weight with a first CC and then again with an MCC.

Sometimes these patients do end up going to surgery; other times they do not because they are too high risk (for example, extremely advanced age). Regardless of whether or not they go to surgery we need to have this type of fracture documented if it is applicable for the patient.

NOTE: When your patient goes to the operating room to have surgery for a pathologic fracture, the surgery then drives the MS-DRG, not the principal diagnosis. This is still extremely important to get identified as principal diagnosis for data purposes.

What does this look like in documentation? Your physician may document, "Hip fracture, patient apparently slid from chair to floor at nursing home. HTN. GERD. Osteoporosis. Ortho to see." Even based on this minimal documentation, it appears appropriate to query for a pathologic fracture.

Possible Clinical Indicators: A low-energy fall or fall that would not normally result in injury that resulted in fracture

Possible Risk Factors: History of osteoporosis, Paget's disease, disuse atrophy, unexplained falls, steroid use, nursing home or LTAC resident, advanced age

Possible Treatment: Orthopedic consult with treatment of the fracture (either surgical or nonsurgical), pain medications, bed rest, XR/CT/MRI, checking labs, and continuing home medications for bone disease

HUNGRY BONE SYNDROME

Hungry bone syndrome is a state of **prolonged hypocalcemia**. The biggest risk factor for developing this condition is when patients have a parathyroidectomy in which the parathyroid gland is removed.

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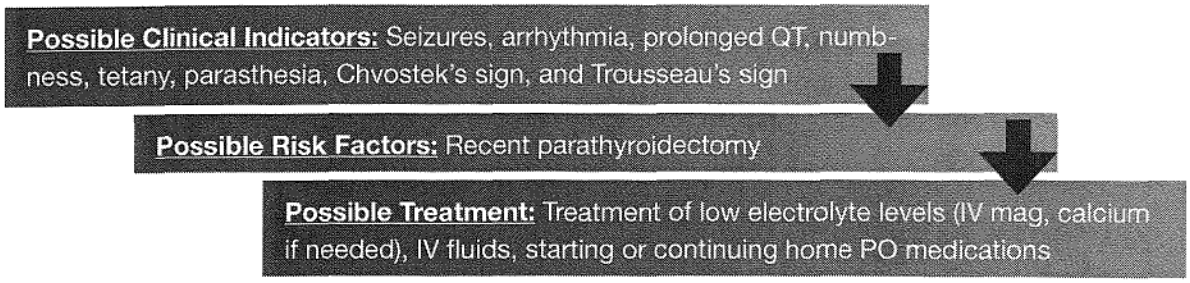
This situation is usually due to hormone problems or tumors. Approximately 12 percent of patients who have a parathyroidectomy will go on to develop hungry bone syndrome, since these normally help regulate calcium levels in the body. Another symptom that develops due to the exchange of magnesium from the extracellular area to bone is hypomagnesemia.


Possible Clinical Indicators: Seizures, arrhythmia, prolonged QT, numbness, tetany, parasthesia, Chvostek's sign, and Trousseau's sign
Possible Risk Factors: Recent parathyroidectomy
Possible Treatment: Treatment of low electrolyte levels (IV mag, calcium if needed), IV fluids, starting or continuing home PO medications

CODING GUIDELINE **_AHA CODING CLINIC FOR ICD-9_ (4TH Q, 2008, PAGES 96–97)**

There is not a more current Coding Clinic *to address hungry bone syndrome in ICD-10, but the advice below still seems logical. However, keep yourself updated on any coding changes in the future.*

QUESTION: A patient presents with persistent hypocalcemia, hypomagnesemia and hypophosphatemia status post subtotal parathyroidectomy. The physician listed the final diagnosis as persistent hypocalcemia, hypomagnesemia and hypophosphatemia after subtotal parathyroidectomy due to **hungry bone syndrome**. How should this case be coded?

ANSWER: Assign code 275.5, Hungry bone syndrome, as the principal diagnosis. The hypocalcemia, hypomagnesemia and hypophosphatemia are all symptoms of hungry bone syndrome and should not be coded separately.

RHABDOMYOLYSIS

Rhabdomyolysis is the rapid destruction of skeletal muscle resulting in leakage into the urine of the muscle protein myoglobin. It is a syndrome characterized by muscle necrosis and the release of intracellular contents into the circulation. The biggest finding in rhabdomyolysis is dramatically increased creatinine kinase levels.

The biggest risk factor for rhabdomyolysis is being immovable or immobile for a long period of time.

Consider elderly patients who fall with a resulting fracture with no one to help them up for several hours. They are at very high risk for developing rhabdomyolysis. The longer they are down the higher the risk. Another set of patients who is at risk for this is young people who are competing or participating in intense exercise, like a marathon, triathlon, or weight-lifting competition. *(MedicineNet, 2015)*

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Possible Clinical Indicators: Increased creatinine kinase (CK) levels-often 10,000+, urine myoglobin and/or blood in the urine, tea-colored or dark urine, elevated liver enzymes, muscle pain/tenderness, swelling or bruising, fever, weakness, malaise, confusion/delirium, anuria, n/v, hyperkalemia, hypocalcemia, cardiac arrythmias including arrest, acute renal failure, ATN, DIC, compartment syndrome

Possible Risk Factors: Fall resulting in injury with lengthy or unknown down time, recent intense exercise

Possible Treatment: IV fluids (often multiple liters, even up to 10 to 12 liters), monitoring of serial lab values, monitoring of I&Os

In ICD-10 there are two types of rhabdomyolysis:

- **Nontraumatic rhabdomyolysis** is a CC (code M62.82). It results from intense exertion, hyperthermia, metabolic syndromes, drugs/toxins, infections, or electrolyte disorders.
- **Traumatic rhabdomyolysis** is the result of crush syndrome or prolonged immobilization. It is not a CC. When you send a query, it is the physician's responsibility to determine what type of rhabdomyolysis the patient is experiencing.

ORTHOPEDIC PROCEDURES IN ICD-10

As mentioned previously, coding procedures in ICD-10 will be a challenge for both coding and CDI professionals alike. As a CDS it is not your responsibility to be a coder or obtain 100 percent coding accuracy. However, you do need baseline knowledge regarding the coding of procedures in ICD-10.

The best way to learn to code procedures is to start coding them! Using your codebooks and walking down the pathway logic of your grouper software will show you what you may be missing in order to establish a final procedure code. It may be something as simple as left vs. right. It may be something more complicated like clarifying the type of materials used in a prosthetic hip prosthesis. Our advice is to get to know your codebooks and guidelines and get to know your coders. As they begin coding in ICD-10, they can identify areas that they always have to query for that you can start querying for concurrently.

MDC 8: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the orthopedic chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple

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as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity Drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Anorexia CKD, stage 3 Failure to thrive, adult Head injury Multiple sclerosis	Myopathy Nutritional deficiency Pressure ulcer, upper/lower back, hip, buttock Vitamin deficiency, vitamin D deficiency
Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acute kidney injury/acute renal failure Anemia, acute blood loss (ABLA) Anemia, blood loss post-op (post-op ABLA) Atelectasis (pulmonary collapse) BMI ≤ 19, BMI > 40 (**with linked** diagnosis – underweight, morbid obesity) Cachexia/Emaciated Cellulitis/Abscess CHF or heart failure, systolic/diastolic/combined chronic CKD, stages 4 and 5 Compartment syndrome (nontraumatic) Complications of prosthetic joint DVT Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Fracture, malunion (not specified as late effect of injury)	Hemiplegia/Hemiparesis Malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Neurogenic bowel Osteogenesis imperfecta Osteomyelitis (acute, chronic, or unspecified) Paralytic ileus Paraplegia Pathological fractures Pulmonary embolism, chronic Respiratory distress, acute Respiratory failure, chronic Rhabdomyolysis Shock, postoperative and unspecified SIRS, noninfectious without acute organ dysfunction UTI/Pyelonephritis
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) CHF, systolic/diastolic/combined, acute or exacerbation Coma Encephalopathy (metabolic, toxic, septic)	ESRD Malnutrition, protein-calorie (severe, nutritional marasmus) Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 and 4 (If not POA will code to a HAC) Pulmonary embolism (new/acute) Quadriplegia, functional quadriplegia Sepsis, severe sepsis, septic shock (as SDX) Shock, hemorrhagic, hypovolemic, traumatic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction

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MDC 8 CASE STUDIES

CASE STUDY 1

92-year-old female comes to the ER via ambulance for pain in her left leg. She reports to the nurse, "I'm not sure what happened. My electronic reclining chair pushed me a little too far forward and I slid to the floor, then my leg started hurting." Considering her age she is in remarkable health with no documented health history except mild HTN and COPD. Her daughter brings the few medications she is taking, which includes Boniva. After workup the family and patient decide not to go to the operating room. Her progress note for hospital day #3 reads as follows:

PROBLEMS:

1) Left femur fracture in elderly, pleasant lady. Bed rest. Will definitely need LTAC or some type of rehab. Discuss with daughter. Continue care, start PT if possible.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

A 72 y/o male patient presents for a TKA. His health history includes CHF with EF of 30% and he is compliant with medications. Two days postoperatively his H&H drops to 7.3/26.2 with some weakness. He is transfused 2 units of PRBCs and also given 1 dose of 20mg IV Lasix between units. He appears to tolerate this well; however on hospital day #3 his room air sats drop slightly to 88% with tachypnea, respiratory rate 28. His CXR reveals a worsening CHF. He has a new ECHO done with an EF of 20% and he is started on 40mg Lasix IV TID. Hospital day 4 progress note:

PROBLEMS:

1) Left knee DJD, planned TKA. Doing well from a surgical standpoint.
2) Anemia replaced, labs today H&H 9.2, 29.1. Asymptomatic.
3) CHF. Appears the blood and fluid from surgery may have been the tipping point here. New echo shows EF 25%. Responding very well to IV Lasix, on 3L of oxygen (down from 4, only required for a couple of hours). Continue to monitor. Labs tomorrow am to check renal function.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 9: DISEASES AND DISORDERS OF THE SKIN, SUBCUTANEOUS TISSUE AND BREAST

PRESSURE ULCERS/INJURIES

Pressure Ulcer Stages	
Stage 1	A reddened area on the skin that, when pressed, is "non-blanchable." This means it doesn't turn white and that a pressure ulcer is starting to develop.
Stage 2	Skin blister forms an open sore. The area around the sore may be red or irritated.
Stage 3	The skin breakdown now looks like a crater, and there is damage to the tissue below the skin.
Stage 4	The pressure ulcer has become deep enough that there is damage to muscle, bone, tendons, or joints.
Unstageable	Full-thickness tissue loss in which the base of the ulcer is covered by slough and/or eschar.

National Pressure Ulcer Advisory Panel, 2007

The focus of coding pressure ulcers (PU) or pressure injuries (PI), which includes decubitus ulcers, has been taken off the site and placed on the stage of the pressure ulcer. Three factors have remained constant when coding pressure ulcers. Per *Coding Clinic*, 4th quarter, 2008, always look for documentation of:

- **Location** ➡ must be documented by the physician.
- **POA status** ➡ must be documented by the physician.
- **Stage** ➡ can be documented by clinicians such as RN, wound care RN, physical therapist.

If any of these identifiers are not documented regarding a pressure ulcer…**QUERY!**

If the physician is only documenting ulcer, clarify type of ulcer with a …**QUERY!**

If there is conflicting documentation about the stage or POA status…**QUERY!**

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Stages 3 and 4 pressure ulcers are MCCs when they are POA. The pressure ulcer stage codes should only be used with pressure ulcers and not with any other types of ulcers.

Pressure Ulcers Stages 3 and 4
If these are both documented as present on admission (POA) they are coded to a HAC! This makes it appear as though the hospital "gave" this patient a PU stages 3 or 4 due to poor care (not turning frequently, inadequate wound care, etc.). This is often simply a documentation issue and not a true HAC. If it appears as though your patient's pressure ulcer is POA and it is not documented as such, **QUERY.**

What's my Principal Diagnosis?

Question: My patient presents with sepsis from the nursing home. He also has a stage 3 PU of the coccyx POA. What is my patient's PDX?

Answer: *Sepsis. The stage 3 PU will be coded as a secondary diagnosis and "yes" as POA. This will be an MCC for this record.*

Question: My patient presents from his home where he is bed-bound with a stage 4 pressure ulcer of his heel. Per his niece it is "looking so much worse, that's why they brought him in." He presents with no other acute illness. The focus of treatment is the pressure ulcer. What is my patient's PDX?

Answer: *Pressure of the heel, stage 4. When the focus of treatment is the PU, the PU will be your PDX.*

CELLULITIS AND COMPLEX WOUNDS

Cellulitis is an acute, diffuse infection of the skin and soft tissues that commonly results from a break in the skin, such as a puncture wound, laceration or ulcer. Clinically, it usually presents with:

- Abrupt onset of redness
- Swelling
- Pain
- Warmth or heat to area

Complex wounds include the following:

- Delayed treatment
- Delayed healing
- Major infection
- Foreign body *(Jurcak, 2012)*.

In order for a wound to code to a "complex wound," it must be considered **OPEN.** This may seem illogical: Aren't all wounds "open?" However, you need to include the term "**open wound**" as part of your query so that the coder knows this is an open wound and to follow the complex wound pathway.

Cellulitis and complex wounds are two different clinical scenarios. Almost anyone can develop a cellulitis; many of them don't require inpatient treatment or require a short LOS. A complex wound is something different. A patient with a complex wound has likely already sought treatment for the wound multiple times without improvement or a return of the condition. Coding

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to open wound vs. cellulitis will change MS-DRG assignment. Be sure to query if need be to clarify if a wound is "just" a cellulitis or if it is a complex wound. The documentation must clearly specify this.

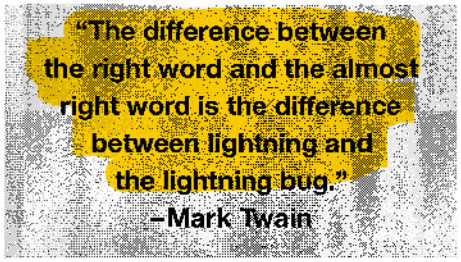
CODING GUIDELINE **AHA CODING CLINIC FOR ICD-10 (1ST Q 2014, VOL. 1, NUMBER 1)**

NON-HEALING SURGICAL WOUNDS

QUESTION: How should a non-healing surgical wound be coded?

ANSWER: ICD-10-CM does not provide a specific code to describe non-healing surgical wound. Assign code T81.89X-, Other complications of procedures, not elsewhere classified, for an unspecified non-healing surgical wound. If a postsurgical wound does not heal due to infection, assign code T81.4XX-, Infection following a procedure. If the wound was closed at one time and is no longer closed, it is coded as disruption. In that case, code T81.3-, Disruption of wound, not elsewhere classified, should be assigned.

DEBRIDEMENT DOCUMENTATION


"The difference between the right word and the almost right word is the difference between lightning and the lightning bug."
–Mark Twain

Debridement procedures remain a target CDI topic. They frequently require querying for clarification for excisional or non-excisional debridement. The following definitions apply.

Excisional Debridement: Defined by the AHA as "surgical removal or cutting away of foreign material and devitalized or contaminated tissue, necrosis, or slough. Excisional debridement involves the use of a scalpel to remove devitalized tissue. Debridement can be performed in the OR, ER, or at the patient's bedside.

Non-Excisional Debridement: The AHA defines this as the "nonoperative brushing, irrigation, scrubbing, or washing of devitalized tissue, necrosis, slough, or foreign material."

SOURCE: *Coding Clinic*, 2015, 3rd quarter, page 3

Listed below are five required criteria to include in operative note for debridement to clarify and describe the procedure performed.

- **Technique:** excisional, non-excisional, cut-away, lavage, irrigated, scraped, scrubbed, snipped, etc.
- **Instrument:** scalpel, blade, curette, rongeur, scissors, brush, whirlpool, Versajet, irrigator, etc.
- **Nature of tissue:** devitalized, necrotic, slough, infected, non-viable, loose fragments, etc.
- **Appearance and size of wound:** debrided to fresh bleeding tissue, 7 cm x 10 cm, etc.
- **Depth of debridement:** skin, subcutaneous, fascia, tendon, muscle, bone, etc. *(AAPC, 2011)*
- **Body part and laterality:** left foot, right lower leg, left upper leg, etc.

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Why is debridement such a hot topic for CMS and other insurers? Reimbursement! Notice below that a non-excisional debridement of the skin doesn't fall into the surgical hierarchy for moving a MS-DRG from medical to surgical.

Diagnosis	Procedure	MS-DRG	RW	GMLOS	Payment*
PDX: Cellulitis SDX: none	Non-excisional debridement of skin	MS-DRG 603 Cellulitis w/o MCC	0.8477	3.3	$5,086
PDX: Cellulitis SDX: none	Excisional debridement of skin	MS-DRG 572 Skin Debridement w/o CC or MCC	1.1786	3.4	$7,072
PDX: Cellulitis SDX: AKI	Excisional debridement of skin	MS-DRG 571 Skin Debridement w/ CC	1.7029	5.2	$10,217
PDX: Cellulitis SDX: ESRD	Excisional debridement of skin	MS-DRG 570 Skin Debridement w/ MCC	3.0347	7.6	$18,208

*Estimated using base rate of $6,000

NOTE: Skin and subcutaneous tissue are separate body systems in ICD-10-CM.

Diagnosis	Procedure	MS-DRG	RW	GMLOS	Payment*
PDX: Cellulitis SDX: none	Non-excisional debridement of subcutaneous tissue	MS-DRG 581 Other skin, subcutaneous tissue and breast PX w/o CC/MCC	1.2364	2.4	$7,418
PDX: Cellulitis SDX: AKI	Non-Excisional debridement of subcutaneous tissue	MS-DRG 580 Other skin, subcutaneous tissue and breast PX w/ CC	1.5898	4.1	$9,539
PDX: Cellulitis SDX: ESRD	Non-Excisional debridement of subcutaneous tissue	MS-DRG 579 Other skin, subcutaneous tissue and breast PX w/ MCC	2.7978	6.5	$16,787

*Estimated using base rate of $6,000

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (3RD Q 2015, VOL. 2, NUMBER 3)

EXCISIONAL VS NON-EXCISIONAL DEBRIDEMENT: LANGUAGE & TERMINOLOGY

QUESTION: In terms of coding excisional debridement, does dissection mean the same as excisional? For example, the provider's documentation states: "The debridement was sharp using knife dissection."

ANSWER: No, knife dissection is not sufficient language to be able to code the root operation "Excision." Knife dissection may only be referring to the means used to reach the procedure site, and doesn't necessarily say what was done at the site. **Query the physician for more information when the documentation only states knife dissection. Use of a sharp instrument does**

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not always indicate that an excisional debridement was performed. A code is assigned for excisional debridement when the provider documents "excisional debridement," and/or the documentation meets the root operation definition of "excision" (cutting out or off, without replacement, a portion of a body part). Documentation of excisional debridement should be specific regarding the type of debridement. If the documentation is not clear or if there is any question about the procedure, query the provider for clarification.

QUESTION: Can you clarify what determines that a debridement in ICD-10-PCS is excisional? The progress note states: "I have debrided the abscess cavity, removing necrotic tissue and bone by sharp debridement." Does the word "excision" need to be present as with ICD-9-CM?

ANSWER: Yes, the documentation standard for coding excisional debridement in ICD-10-PCS is the same as it is for ICD-9-CM. **As with ICD-9-CM, the words "sharp debridement" is not enough to code the root operation Excision**. A code is assigned for excisional debridement when the provider documents "excisional debridement," and/or the documentation meets the root operation definition of "excision" (cutting out or off, without replacement, a portion of a body part).

QUESTION: If a physician documents "debridement of bone, fascia or muscle," without specifying "excisional debridement," can that be reported as excisional debridement? In order for the surgeon to get down into these areas, wouldn't he or she need to excise/ cut? What code should we report for debridement performed on bone, muscle or fascia, if not specified as excisional?

ANSWER: Coders cannot assume that the debridement of bone, fascia, or muscle is always excisional. For example, if a patient suffers a traumatic open wound and fascia, muscle, or bone is exposed, an excisional debridement may not be performed. ICD-10-PCS does not provide a default if the debridement is not specified as "excisional" or "non-excisional."

In many cases, only non-excisional debridement is required to clean the wound. Therefore, providers should specifically document the type of debridement. Clear and concise documentation is needed in order to accurately report excisional debridement. The link between good provider documentation and correct coding has always been emphasized in *Coding Clinic*. It is critical that hospitals work with their providers to ensure that the documentation used to support excisional debridement clearly describes the procedure. Although this may pose some challenges to the coding community, if the documentation is not clear or there is any question about the procedure, the provider should be queried for clarification. To avoid queries, which are frustrating and burdensome to both coders and providers, physicians should be encouraged to provide clear documentation at the point of care.

DEBRIDEMENT: Do I need to query?

If it appears that your patient has had an excisional debridement and documentation does not SPECIFICALLY state "excisional debridement"—AND all required criteria have been met—you need a query!

For example, terms such as "sharp debridement," "extensive debridement," "knife dissection" and "thorough debridement" may result in coding a non-excisional debridement. Remember: The purpose of CDI is to accurately reflect the care your patient received!

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PRESSURE ULCER SPECIFICITY: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient with pressure ulcer only documented by RN

Note: All pressure ulcers must be documented by a physician/provider.

Can you further specify if we are treating this patient for one of the following diagnoses?

- Pressure ulcer, stage 3, coccyx, POA
- Pressure ulcer, stage 3, coccyx, not POA
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: RN (non-wound-care RN) with multiple documentations of "pressure ulcer stage 3, coccyx" – date of admission 1/21/16 with ER RN documenting the stage 3 PU as well

Risk Factors: Nursing home patient, advanced age, paper-thin skin

Treatment: Turning q2h, wound care has been ordered, with Mepilex being placed on area

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

MDC 9: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Skin chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Anorexia DM uncontrolled Eating disorder Electrolyte/Fluid disorder	Failure to thrive, adult Nutritional deficiency Pressure ulcer, upper/lower back, hip, buttock Shingles/Herpes Zoster

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Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC. **Secondary Diagnosis = SDX**	Acute kidney injury/acute renal failure Adult or child maltreatment (unspecified, neglect, physical or sexual abuse) Anorexia nervosa, bulimia nervosa BMI ≤ 19, BMI > 40 (**with linked** diagnosis—underweight, morbid obesity) Cachexia/Emaciated Cellulitis/Abscess CHF or heart failure, systolic/diastolic/combined chronic CKD stages 4 and 5 Compartment syndrome (non-traumatic)	Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Frostbite Gangrene Hemiplegia/Hemiparesis Hemiplegia/Hemiparesis s/p CVA Malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Paraplegia Pathological fractures Pyogenic arthritis Respiratory failure, chronic Rhabdomyolysis SIRS, noninfectious without acute organ dysfunction Stoma complications
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) CHF, systolic/diastolic/combined, acute or exacerbation Coma Encephalopathy (metabolic, toxic, septic)	ESRD Malnutrition, protein-calorie (severe, nutritional marasmus) Necrotizing fasciitis Pneumonia, all (Including aspiration PNA) Pressure ulcer, stages 3 and 4 (if not POA will code to a HAC) Quadriplegia, functional quadriplegia Sepsis, severe sepsis, septic shock (as SDX) Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction

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MDC 9 CASE STUDY

CASE STUDY 1

75-year-old male patient presents for debridement of chronic and severe cellulitis. Patient is non-compliant with wound care appointment. Patient is scheduled for debridement of devitalized tissue.

PROCEDURE NOTE

PREOPERATIVE DIAGNOSES: Cellulitis, lower right leg

POSTOEPRATIVE DIAGNOSES: SAME

OPERATION: Debridement

In the OR, patient is prepped for surgery. Sloughing of the area is noted. Wound area is approximately 5x7cm. Utilizing a #15 blade, an elliptical incision is made. Necrotic tissue is cut away and debrided down to fascia revealing viable bleeding tissue. The wound is irrigated with Gentamycin solution. EBL 20 cc. Patient tolerated procedure well without complications.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 10: ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES AND DISORDERS

DIABETES

TYPES OF DIABETES

In ICD-10, there are five major categories or types of DM:

- **Type 1 Diabetes:** Also described as juvenile diabetes. Type 1 patients **require** insulin to sustain life because the body does not produce insulin.
- **Type 2 Diabetes:** Also described as adult onset, diet-controlled, IDDM, NIDDM, DM2, diabetes not otherwise specified and maturity onset diabetes of the young (MODY). Type 2 patients have a problem with decreased insulin production and/or insulin resistance, but the body still produces some insulin. **This is the default type of diabetes for coding**; this means that if the diabetes is unspecified in the documentation, it will code to type 2 DM, unspecified.
- **Diabetes mellitus due to underlying condition:** This type is caused by another condition such as malnutrition, pancreatitis/diseases of the pancreas, Cushing's syndrome, cystic fibrosis, and malignant neoplasms.
- **Drug- or chemical-induced diabetes mellitus:** Directly caused by some type of chemical or drug that produces diabetic symptoms (e.g., steroids).
- **Other specified diabetes mellitus:** This includes secondary diabetes NEC, due to genetic defects of beta-cell function or insulin action, post-procedural or post-pancreatectomy diabetes mellitus.

In ICD-10, diabetes mellitus without complications, unspecified defaults to:

E11.9 Type 2 diabetes mellitus without complications

Questionable admit when used as PDX. Think like an auditor: Why would someone need an inpatient admission if all they have as their PDX is diabetes without complications? They likely need OBS.

High-risk MS-DRG
RAC Auditors Love It!

CODING DIABETES MELLITUS

To correctly code diabetes mellitus, the type of diabetes must be identified including the body system affected, underlying condition, drug/chemical, or procedure that is documented as causing the diabetes. This is followed by the associated complications and manifestations and finally, the control status.

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Complications are conditions that occur along with diabetes mellitus such as ketoacidosis, hyperosmolarity, and coma. **Manifestations** are conditions or complications that affect other body systems due to the diabetes. Common manifestations include nephropathy, nephrosis, blindness, glaucoma, retinopathy, cataracts, neuropathy, gastroparesis, skin ulcer, ulcer secondary to PVD, osteomyelitis, and gangrene. The relationship can be assumed if the complication/manifestation follows "with". Otherwise, the physician must establish the relationship.

In ICD-9 there was an assumed relationship (cause and effect) between DM and osteomyelitis when both conditions were present. As of October 1, 2016, ICD-10-CM assumes a relationship between diabetes and osteomyelitis. If you have any doubt regarding the cause-and-effect relationship, you may need to query for this link. If your patient has osteomyelitis and DM and you believe there is a cause-and-effect relationship, you may need to query for this link.

Patients can exhibit multiple manifestations and if all meet the definition of a principal diagnosis and all are equally treated, any one of the diabetic manifestations can be sequenced as the principal diagnosis. This holds true even when a patient is admitted for uncontrolled diabetes and has multiple manifestations.

DM
Poorly Controlled = Out of Control
(They both code to "DM with hyperglycemia.")

Look for lab values such as elevated HgbA1c for indication of uncontrolled status. Hemoglobin A1c (HgbA1c) levels reflect overall blood glucose concentration during the previous two to three months. Good diabetic control: 2.5 to 5.9 percent; fair diabetic control: 6 to 8 percent; **poor diabetic control > 8 percent**. Uncontrolled DM is not a CC but it often elevates SOI/ROM scores. Note that uncontrolled DM may be reported with hyperglycemia or with hypoglycemia.

CODING GUIDELINE **_AHA CODING CLINIC FOR ICD-10_ (3RD Q 2013, PAGE 20)**

DIABETES WITH KETOACIDOSIS

QUESTION: *Coding Clinic for ICD-9-CM* states that uncontrolled diabetes is inherent in ketoacidosis. **Therefore, how would you report uncontrolled type I diabetes with ketoacidosis in ICD-10-CM?** Should the code for diabetes with hyperglycemia (E10.65) be reported in addition to the code for diabetes ketoacidosis (E10.10)? Or should only the code for diabetic ketoacidosis be reported since ketoacidosis is considered uncontrolled diabetes?

ANSWER: No, in this case, it is not appropriate to assign code E10.65, Type 1 diabetes mellitus with hyperglycemia, together with code E10.10. Assign only code E10.10, Type 1 diabetes mellitus with ketoacidosis without coma. Ketoacidosis signifies uncontrolled diabetes.

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COMMON DIABETES CODES

Diagnosis	Code(s)	CC or MCC?
Diabetes mellitus due to underlying condition w/ hyperosmolarity without non-ketotic hyperglycemic-hyperosmolar coma (NKHHC)	E08.00	MCC if POA
Diabetes mellitus due to underlying condition w/ ketoacidosis without coma	E08.10	MCC if POA
Type 1 diabetes mellitus w/ ketoacidosis w/o coma	E10.10	MCC if POA
Type 1 diabetes mellitus w/ diabetic nephropathy	E10.21	-
Type 1 diabetes mellitus w/ autonomic (poly)neuropathy	E10.43	-
Type 2 diabetes mellitus w/ chronic kidney disease (Use additional code to identify stage of CKD N18.1–N18.6.)	E11.22	-
Type 2 diabetes mellitus w/ diabetic peripheral angiopathy w/ gangrene	E11.52	CC
Type 2 diabetes mellitus w/ hypoglycemia w/o coma	E11.649	-
Other specified diabetes mellitus w/ ketoacidosis w/o coma	E13.10	MCC if POA
Other specified diabetes mellitus w/other oral complication	E13.638	-
Type 2 diabetes mellitus w/o complications	E11.9	-

BODY MASS INDEX (BMI): UNDERWEIGHT AND OBESITY

Body mass index (BMI) is a person's weight in kilograms divided by the square of height in meters. It doesn't directly measure body fat; however, it appears to be as strongly correlated with a variety of metabolic and disease outcomes as are the more direct measures of body fatness. It is a non-invasive, inexpensive and easy-to-perform method of screening for weight category (i.e. underweight, normal or healthy weight, overweight, or obesity). The standard weight status categories associated with BMI for adults are as follows:

- Below 18.5—Underweight
- 18.5 to 24.9—Normal/Healthy weight
- 25.0 to 29.9—Overweight
- 30.0 and above—Obese
- 40+—Morbidly obese

These do not necessarily apply to true body builders (not people who think they are body builders!).

This differs from coding guidelines and accepted rules for BMI and underweight, overweight and obese. Per the *2016 CDI Pocket Guide*:

> "A BMI ≥ 40 and BMI ≤ 19 impact severity of illness and are CCs. Although a non-CC, BMI 30–39.9 has severity and PSI-90 implications…however a BMI cannot be coded as a secondary diagnosis unless the physician documents a diagnosis or condition relevant to the abnormal BMI. For example, weight loss, undernutrition, anorexia, weight gain, underweight, overweight, obese, etc." *(Pinson, page 59)*

NOTE: In ICD-10, a BMI of *19.9 or less* code to Z68.1 and is a CC. So BMIs of 19.9 or less are CCs.

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Although the correlation between BMI and body fat is strong, it is not perfect. In general, at the same BMI:

- Women tend to have more body fat then men.
- African Americans have less body fat than do Caucasians, and Asians have more body fat then do Caucasians.
- Older people, on average, tend to have more body fat than younger adults.
- Athletes have less body fat than do non-athletes.

The accuracy of BMI as an indicator of body fat is higher in people with higher BMI; however, that is not the case with athletes where the BMI can be indicative of either high body fat or high lean body mass (muscle and bone). It may also underestimate body fat in older people and others who have lost muscle mass.

There is a lot of research about obesity; however, underweight individuals are at increased risk for many health conditions and diseases as well.

OBESITY	UNDERWEIGHT
All Causes of Death (Mortality)	**All Causes of Death (Mortality)**
Osteoarthritis (breakdown of cartilage, bone in a joint)	Osteoporosis (thinning of bones)
Coronary heart disease/MI	Coronary heart disease/MI
Arrhythmias	Arrhythmias
Delayed wound healing	Delayed wound healing
Slow recovery from illness	Slow recovery from illness
High low-density lipoprotein (LDL), low high-density lipoprotein (HDL), or high levels of triglycerides (dyslipidemia)	Weakened immune system/frequent infections
High blood pressure (hypertension)	Anemia—iron/B-12/folate deficiency
Mental illnesses (depression, anxiety, etc.)	Amennorhea and infertility
Cancer	Mental illnesses such as clinical depression, anxiety, and other mental disorders
Type 2 diabetes	Cancer
Stroke	Type 2 diabetes
Gallbladder disease	Nutritional deficiencies/malnutrition
Sleep apnea and breathing problems	Disrupted hormonal regulation
Chronic inflammation and increased oxidative stress	Inhibited growth and development
Low quality of life, pain and difficulty with physical functioning	

RACs target BMIs <19 or >40.0 with an attached diagnosis that receives no treatment while in the hospital and does not meet the criteria for the coding of a secondary diagnosis. *This is particularly true when the BMI and its correlating diagnosis is the* ***only CC.***

Remember: The definition of secondary diagnosis is "condition that coexist at the time of admission, that develop subsequently, or that affect the treatment received and/or the length of stay. Other conditions require ONE of the five criteria: Clinical evaluation, therapeutic treatment, diagnostic procedure, increased nursing care/monitoring, OR extended length of stay. ***Secondary conditions which are documented but which do not meet 1 of these 5 requirements should not be coded."***

It is the responsibility of the coder or CDS to determine if the documented condition is clinically significant and warranting code assignment.

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CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (3RD QTR. 2011, PAGES 3–4)

EXCISIONAL VS NON-EXCISIONAL DEBRIDEMENT: LANGUAGE & TERMINOLOGY

QUESTION: If the provider documents obesity or morbid obesity in the history and physical and/or discharge summary only without any additional documentation to support clinical significance of this condition, can it be coded? There is no other documentation to support clinical significance such as evaluation, treatment, increased monitoring, or increased nursing care, etc., for this condition.

ANSWER: Individuals who are overweight, obese or morbidly obese are at an increased risk for certain medical conditions when compared to persons of normal weight. Therefore, these conditions are always clinically significant and reportable when documented by the provider. In addition, the body mass index (BMI) code meets the requirement for clinical significance when obesity is documented. Refer to *Coding Clinic*, Third Quarter 2007, pages 13–14, for additional information on coding chronic conditions.

HOW DO I KNOW IF THE BMI IS "CLINICALLY SIGNIFICANT?"

Verify that there is a BMI, nutritional diagnosis, medical diagnosis, and treatment documented in the medical record. If necessary, query the provider if the requirements for secondary diagnosis are met.

	E66.01 MORBID OBESITY due to Excess Calories (BMI > 40) E66.09 OBESITY due to Excess Calories (BMI 30–39.9)	R63.6 UNDERWEIGHT (BMI ≤ 19)
Clinical Significance	• Requires dietician for evaluation and treatment • Requires extended length of stay due to delayed healing • Obesity hypoventilation syndrome as additional diagnosis	• Requires dietician for evaluation and treatment • Requires extended LOS due to delayed healing or other secondary diagnoses
Treatment	• Requires 2+ person assist w/ ADLs/ ambulation/transfers • PT/OT d/t wt related mobility issues • Requires X-large equipment (bariatric bed, wheelchair, walker, commode) • Requires extended OR/anesthesia care-time, equipment or materials r/t wt • Daily weights, calorie counts • Peritoneal catheter placed d/t inability to place Foley 2/2 to pannus	• Nutritional supplements (PO, IV, TPN, tube feed, Ensure, etc.) • PEG tube placement • Medication to induce appetite (Megace, Marinol) • PT/OT for weight-related energy and/or mobility issues • Special bed for prevention/treatment of PU • Wound care • Monitoring daily weights, intake, and calorie counts • Psychiatry consult (if weight loss is not accidental)
	Remember: Even though it is accepted that patients with a BMI > 30 are obese, you will only capture the CC if the patient's BMI is ≥ 40 based on coding guidelines.	

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BMI AND CORRELATING DIAGNOSIS: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient has a BMI of 52.4 with no associated medical diagnosis

Can you further specify if we are treating this patient for one of the following diagnoses?

- Morbid obesity due to excess calories (BMI 52.4)
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Patient with BMI 52.4 requiring 2–3 person assist to the chair and occasional Hoyer lift use

Risk Factors: Noncompliance with most medical care

Treatment: Nutritional consult, weight loss and heart-healthy diet education, monitoring daily weights

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

MALNUTRITION

Adequate nutrition is an essential ingredient for maintaining a healthy body and/or recuperating from illness. **Malnutrition** is a broad term most commonly used to describe *under-nutrition* but it can also refer to *over-nutrition* as well. Basically, there needs to be an adequate amount of calories, protein and other nutrients to keep the body performing at peak efficiency for growth and maintenance. Illnesses can cause patients to take in too little or too much nutrition or interfere with the body's ability to utilize the food that is consumed. **Normally associated with children, malnutrition is becoming more prevalent in the elderly population who are unable to properly care for themselves and who do not have the resources to obtain daily care or assistance.**

Malnutrition is a major problem for hospitals. Up to one-third of patients are admitted in an already malnourished state. If left untreated, they will continue to have a decline in their nutritional status. Another one-third of the hospitalized patient population will become malnourished during their stay. Malnutrition increases risk of pressure ulcers, delays wound healing, and increases incidence of infection. **All of this translates to longer lengths of stay, more frequent readmissions, and higher levels of acuity requiring increased care and resource consumption.**

Malnutrition is often under-documented in the medical record with statements like "poor appetite," "per patient he has lost 30 lbs in last 6 months without trying" or "failure to thrive." These are **symptoms** and require greater specification. If the patient meets the clinical indicators for malnutrition *and* the malnutrition is being treated, the provider should be queried to determine the level of malnutrition.

In order to properly code the nutritional status of a patient, there has to be appropriate documentation to support that level of nutrition or malnutrition. An abnormal lab value should never be the sole basis for a malnutrition diagnosis. Any lab values must have supportive documentation, nutritional and medical diagnoses to determine the type and degree of malnutrition. It is appropriate to ask the provider if the lab value has any significance or associated medical diagnosis. Documentation may include the following:

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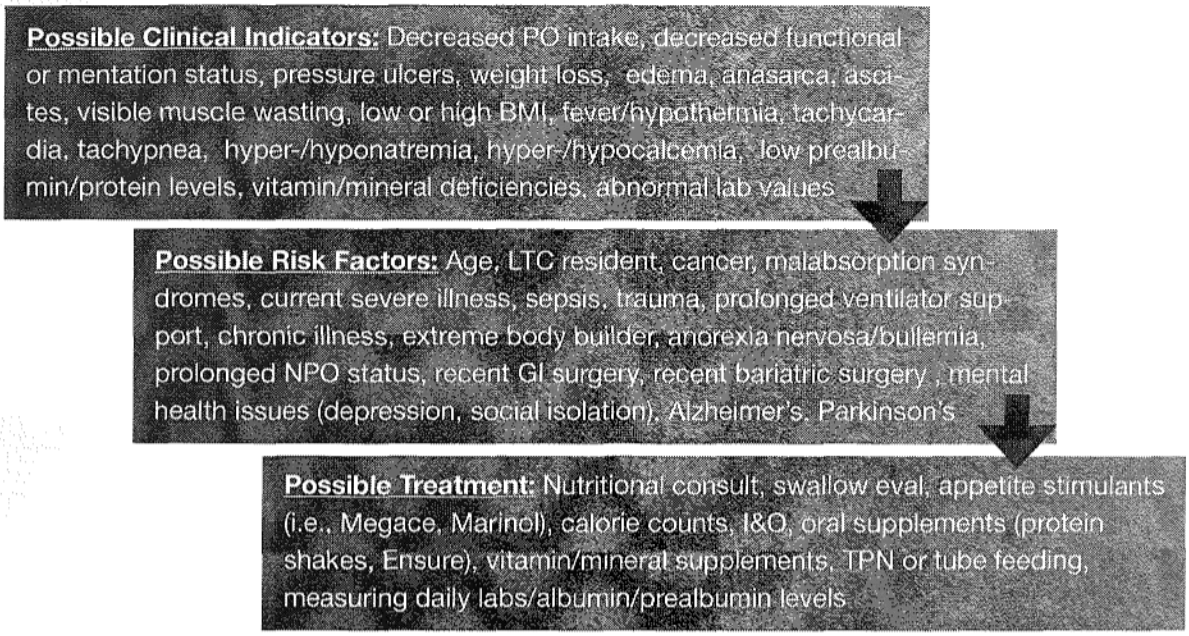
- History and clinical diagnosis: helpful in identifying inflammatory processes and nutritional disturbances
- Clinical signs and physical examination
- Anthropometric data: height, weight, weight loss history, characteristics of skin folds, circumference, and other body composition metrics
- Dietary data: assessment of energy/caloric/protein intake
- Functional outcomes: assessment of strength and physical performance
- Conditions with a high incidence of associated malnutrition: cancer, CVA, COPD, advanced age, dementia
- Laboratory indicators
  - Some indicators (e.g., low albumin or prealbumin) are no longer used to diagnose malnutrition, though they can be used as supportive information. While these hepatic proteins do not accurately measure malnutrition, they are useful indicators of morbidity and mortality.
  - Inflammation markers, such as elevated C-reactive protein, elevated or low white blood cell count, and elevated glucose


Possible Clinical Indicators: Decreased PO intake, decreased functional or mentation status, pressure ulcers, weight loss, edema, anasarca, ascites, visible muscle wasting, low or high BMI, fever/hypothermia, tachycardia, tachypnea, hyper-/hyponatremia, hyper-/hypocalcemia, low prealbumin/protein levels, vitamin/mineral deficiencies, abnormal lab values
Possible Risk Factors: Age, LTC resident, cancer, malabsorption syndromes, current severe illness, sepsis, trauma, prolonged ventilator support, chronic illness, extreme body builder, anorexia nervosa/bulimia, prolonged NPO status, recent GI surgery, recent bariatric surgery , mental health issues (depression, social isolation), Alzheimer's, Parkinson's
Possible Treatment: Nutritional consult, swallow eval, appetite stimulants (i.e., Megace, Marinol), calorie counts, I&O, oral supplements (protein shakes, Ensure), vitamin/mineral supplements, TPN or tube feeding, measuring daily labs/albumin/prealbumin levels

One of the biggest problems with diagnosing malnutrition is the lack of agreement about what constitutes malnutrition and how to determine the severity.

In 2013, the American Society for Parenteral and Enteral Nutrition (ASPEN) along with the Academy (the Academy of Medical-Surgical Nurses, the Academy of Nutrition and Dietetics) developed standardized criteria for diagnosing adult malnutrition using an etiology-based definition that takes into account the relationship between malnutrition and disease, acknowledging the role of inflammation that can be part of the disease process. In the clinical world these are referred to as "the ASPEN criteria" for diagnosing malnutrition.

Many hospitals use these criteria but many do not. Either way, when you are reviewing a record, use your critical thinking skills along with the ASPEN criteria to determine if a patient possibly has malnutrition.

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No single parameter defines malnutrition, so ASPEN and the Academy developed standardized criteria for determining the presence of adult malnutrition and its severity by utilizing six criteria. *At least two of the following criteria* need to be present in order to diagnose malnutrition:

- Insufficient energy intake
- Weight loss
- Loss of muscle mass
- Loss of subcutaneous fat
- Localized or generalized fluid accumulation that may sometimes mask weight loss
- Diminished functional status as measured by hand grip strength *(Kline, 2013).*

The other issue that makes malnutrition even more difficult to stage is the fact that ASPEN designated between "severe" and "non-severe" malnutrition, while current coding guidelines designate as mild, moderate and severe. The tables below may help establish if a patient meets criteria for severe protein-calorie malnutrition (using the above six standards). **Remember:** Your patient must meet two of them!.

NON-SEVERE MALNUTRITION IN ADULTS

J Acad Nutr Diet. 2012;112(5): 730–738; JPEN 201236(3): 267–274 & 275–283

For Example: ICD-9 Code 263.0*	Acute Illness/Injury	Chronic Illness	Social/Environmental
Weight loss	1–2%/1 week 5%/1 month 7.5%/3 months	5%/1 month 7.5%/3 months 10%/6 months 20%/1 year	5%/1 month 7.5%/3 months 10%/6 months 20%/1 year
Energy intake	< 75% for > 7 days	< 75% for ≥ 1 month	< 75% for ≥ 3 months
Body fat	Mild depletion	Mild depletion	Mild depletion
Muscle mass	Mild depletion	Mild depletion	Mild depletion
Fluid accumulation	Mild	Mild	Mild
Grip strength	Not applicable	Not applicable	Not applicable

* Translates to E44.0 in 2018 ICD-10-CM
Source: *2012 ICD-9-CM, Volumes 1 and 2 for Physicians*, American Medical Association

SEVERE MALNUTRITION IN ADULTS

J Acad Nutr Diet. 2012;112(5): 730–738; JPEN 201236(3): 267–274 & 275–283

For Example: ICD-9 Code 263.0*	Acute Illness/Injury	Chronic Illness	Social/Environmental
Weight loss	> 2%/1 week > 5%/1 month > 7.5%/3 months	> 5%/1 month > 7.5%/3 months > 10%/6 months > 20%/1 year	> 5%/1 month > 7.5%/3 months > 10%/6 months > 20%/1 year
Energy intake	≤ 50% for ≥ 5 days	≤ 75% for ≥ 1 month	≤ 50% for ≥ 1 month
Body fat	Moderate depletion	Severe depletion	Severe depletion
Muscle mass	Moderate depletion	Severe depletion	Severe depletion
Fluid accumulation	Moderate ↗ severe	Severe	Severe
Grip strength	Not recommended in ICU	Reduced for age/gender	Reduced for age/gender

* Translates to E44.0 in 2018 ICD-10-CM
Source: *2012 ICD-9-CM, Volumes 1 and 2 for Physicians*, American Medical Association

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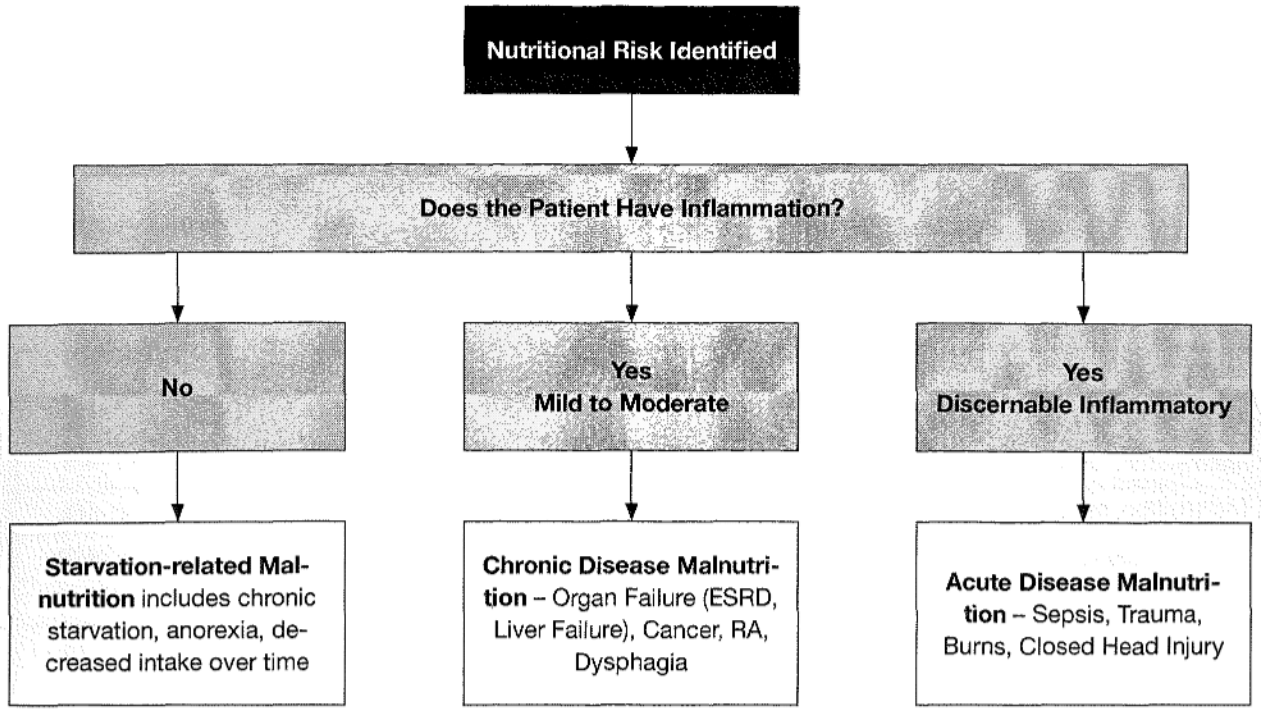
ETIOLOGY-BASED MALNUTRITION DEFINITIONS


Nutritional Risk Identified
Does the Patient Have Inflammation?
No
Yes
Mild to Moderate
Yes
Discernable Inflammatory
Starvation-related Malnutrition includes chronic starvation, anorexia, decreased intake over time
Chronic Disease Malnutrition – Organ Failure (ESRD, Liver Failure), Cancer, RA, Dysphagia
Acute Disease Malnutrition – Sepsis, Trauma, Burns, Closed Head Injury

HIGH-RISK

Coding Kwashiorkor will guarantee a RAC audit!

Kwashiorkor malnutrition is usually only seen in severely malnourished people or children in third-world or non-developed countries. It is **very rare** in the United States and not very likely to be occurring in your hospitalized patients. However, in the rare event that you do see this occurring, make sure the documentation supports it. Hospitalized U.S. patients can (and frequently do) suffer from severe protein-calorie malnutrition or nutritional marasmus.

Question: Can my obese patient be malnourished?

Answer: Yes. Obese patients that are particularly at risk for malnutrition are those that recently had gastric bypass surgery and/or are having complications from gastric bypass (malabsorption, dumping syndrome, etc.).

Last Tip: When querying, always identify malnutrition as protein-calorie or protein-energy. (In ICD-10 both of these identifiers will take you to the same code, which is a change from ICD-9.)

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ICD-10-CM MALNUTRITION CODES

Diagnosis/Documentation	Code	CC or MCC?	SOI/ROM Score
Malnutrition, unspecified	E46	CC	3/2
Malnutrition, protein-calorie, unspecified	E46	CC	3/2
Malnutrition, protein-energy, unspecified	E46	CC	3/2
Malnutrition, protein-calorie or protein-energy imbalance	E46	CC	3/2
Malnutrition, mild protein-calorie	E44.1	CC	2/1
Malnutrition, mild protein-energy	E44.1	CC	2/1
Malnutrition, moderate protein-calorie	E44.0	CC	3/2
Malnutrition, moderate protein-energy	E44.0	CC	3/2
Malnutrition, severe protein-calorie	E43	MCC	4/3
Malnutrition, severe protein-energy	E43	MCC	4/3
Starvation edema	E43	MCC	4/3
Nutritional marasmus	E41	MCC	4/3
Malnutrition, severe protein-calorie intermediate form (codes to Marasmic Kwashiorkor)	E42	MCC	4/3
Kwashiorkor	E40	MCC	4/3
Malignant malnutrition	E40	MCC	4/3
Malnutrition following gastrointestinal surgery	K91.2	CC	3/1
Anorexia	R63.0	-	2/1
Weight loss	R63.4	-	1/1
Starvation (initial encounter)	T73.0XXA	-	1/1
Cachexia	R64	CC	2/3
Underweight with BMI 19 or less	R63.6, Z68.1	CC	1/1, 1/1
Intestinal absorption unspecified	E74.39	-	1/1
Failure to thrive (adult)	R62.7	-	2/1
The following code(s) may be utilized in pediatric chart review.			
Failure to thrive (child)	R62.51	-	2/1
Failure to thrive (newborn)	P92.6	-	2/1
Retarded development following protein-calorie malnutrition	E45	CC	3/1
Sequela of protein-calorie malnutrition	E64.0	CC	3/2

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MALNUTRITION: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient has "failure to thrive" documented by MD and malnutrition documented by RD.

Can you further specify if we are treating this patient for one of the following diagnoses?

- Mild protein-calorie malnutrition and underweight (BMI 17.2)
- Moderate protein-calorie malnutrition and underweight (BMI 17.2)
- Severe protein-calorie malnutrition and underweight (BMI 17.2)
- Failure to thrive only
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Patient has lost 14 lbs. since last hospitalization three months ago, BMI 17.2, reduced appetite, decreased intake (particularly for the last two weeks), "failure to thrive" and "cachectic" documented by hospitalist team and "malnutrition" documented by RD.

Risk Factors: Advanced age (86) with advanced lung cancer on chemotherapy as outpatient

Treatment: Nutritional consult, Ensure TID, weighing the patient, monitoring I&Os, monitoring PO intake, treating nausea with Zofran, and family considering PEG tube

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (1ST Q 2014, VOL. 1, NUMBER 1)

DEHYDRATION AND HYPERNATREMIA OR HYPONATREMIA

Assign code E86.0, Dehydration, in addition to code E87.0, Hyperosmolality and hypernatremia, for a diagnosis of dehydration with hypernatremia. Assign code E86.0, Dehydration, in addition to code E87.1, Hypo-osmolality and hyponatremia, for a diagnosis of dehydration with hyponatremia. Two codes are required to fully capture dehydration with hypernatremia (E86.0 and E87.0) and dehydration with hyponatremia (E86.0 and E87.1).

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MDC 10: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Endocrine chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Anorexia Dysphagia Eating disorder Electrolyte/Fluid disorder	Failure to thrive, adult Hypercalcemia Hypocalcemia Hyperkalemia Nutritional deficiency	Parkinson's disease Pressure ulcer, upper/lower back, hip, buttock Vitamin deficiency Vitamin D deficiency
Frequent CCs *** Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC. **Secondary Diagnosis = SDX**	AKI/Acute renal failure Adult or child maltreatment (unspecified, neglect, physical or sexual abuse) Alcohol dependence with alcohol-induced dementia Alcohol dependence with alcoholic chronic brain syndrome Alcoholic withdrawal delirium Alcohol withdrawal Anorexia nervosa, bulimia nervosa Aphasia, unspecified BMI ≤ 19, BMI > 40 (**w/ linked** diagnosis: underweight, MO) C. difficile enteritis Cachexia/Emaciated Candidiasis of mouth Carcinomatosis CKD, stages 4 and 5 COPD, acute exacerbation Depression, major/acute, mild, moderate, recurrent	Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Enteritis, bacterial enteritis, E. coli Esophageal ulcer Hemiplegia/hemiparesis Hypo- and hypernatremia Ileus Jaundice/leukemia and lymphoma Malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Neurogenic bowel Pancreatitis, chronic Paralytic ileus Paraplegia Post-op hypoinsulinemia (post pancreatectomy) Respiratory failure, chronic SIRS of non-infectious origin without acute organ dysfunction Stoma complications	
Frequent MCCs *** Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure CVA or stroke Cystic fibrosis w/ pulmonary manifestations Encephalopathy (metabolic, toxic, septic) ESRD HIV disease/AIDS	Hepatic coma or hepatic encephalopathy (acute/subacute) Malnutrition, protein-calorie (severe, nutritional marasmus) Pancreatitis, acute Perforation of intestine Pressure ulcer, stages 3 and 4 (if not POA will code to a HAC) Quadriplegia, functional Quadriplegia Sepsis, severe sepsis, septic shock (as SDX) SIRS, noninfectious with acute organ dysfunction Volvulus	

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MDC 10 CASE STUDIES

CASE STUDY 1

79 y/o male presents with a skin ulcer on his left ankle. History includes HTN, DM, CKD stage 3, and blindness in one eye. Documentation in the record includes the following.

PROBLEMS:

1) Severe non-pressure ulcer with muscle exposure on left ankle. Nonexcisionally debrided at bedside by Dr. Moyer yesterday (see note). Doing better now, pain-control issue yesterday, improved today.
2) DM. Blood sugars running high this admission (250+), no s/sx of ketoacidosis or any other complication. Updated orders for q4h blood sugar checks this am. HgbA1C at last visit 9.2. Rechecking today; hopefully lower but not likely. If higher needs to see specialist as outpatient.
3) HTN. Continue home meds.
4) CKD Stage 3 – daily BMP. Stable.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

Unfortunate 26 y/o female presents with SOB and systolic CHF exacerbation 2/2 to childhood heart defect. She is currently on the heart transplant waiting list and has frequent admissions related to her heart failure. She gets winded with any activity and wears oxygen at 4L continuously. Per her nutritional eval her BMI is 15.6 and she is at "high risk for malnutrition." She has had decreased appetite "for months" and has lost approximately 8 lbs in the last month. Per her mother, "she just can't do anything, which includes eating. We feel like she's just wasting away." Documentation in her Progress Note by MD today includes:

PROBLEMS:

1) Unfortunate 26 y/o female. Severe systolic CHF exacerbation. On transplant list. Aggressively diuresing. No new echo this visit as her symptoms are expected. She is high on the transplant list, hopefully will hear something soon.

2) Failure to thrive, cachectic. Has hardly eaten anything "in months" per her mother and boyfriend. Nutritional eval done – likely need to start TPN this admission and continue as outpatient. RN contacting home health about what is available in her area (very rural community).

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 11: DISEASES AND DISORDERS OF THE KIDNEY AND URINARY TRACT

UNDERSTANDING THE KIDNEYS

The kidneys are supplied by the renal arteries that are fed off the abdominal aorta. Their main role is to filter water-soluble wastes from the blood in addition to maintaining electrolyte balance and acting as a buffer to maintain acid-base balance. The rate of filtration in the kidneys is directly related to the glomerular filtration rate (GFR), which also relates to the blood flow through the kidney.

One of the reasons this MDC is significant for the CDI specialist is because many renal diseases are frequent comorbidities in the hospitalized population. The significant diagnoses in this chapter have been noted to represent substantial documentation issues and often tend to go under- or non-diagnosed because of discrepancies in documentation.

For example, a patient presents to the hospital with acute gastroenteritis and is admitted because of electrolyte imbalances. Patient is noted to have clinical indicators for **acute renal failure** but it is not documented clearly enough to final code. Acute renal failure is a CC and while that will not change this particular MS-DRG, it would increase the SOI/ROM in this case as shown below.

MS-DRG	GMLOS	Relative Weight	SOI/ROM
392	2.6	0.7554	1/1
392	2.6	0.7554	2/2

While this does not affect the reimbursement for the facility, it more accurately describes the **acuity** of the patient and adds to the reason why the patient required inpatient treatment and management. Identifying renal issues for patients and making sure they are adequately documented can make vast differences in their SOI/ROM scores, particularly for patients who expire.

While reviewing records, some of the vague symptoms or terms that may trigger the CDI specialist to keep renal/urinary diagnosis on their radar include the following:

- Acute renal insufficiency
- Urinary retention or obstruction
- Azotemia
- Elevated renal labs (BUN and creatinine)
- Oliguria
- Dehydration
- Dry, continue IV fluids.

Acute Renal Insufficiency ≠ Acute Renal Failure or Acute Kidney Injury

This may seem nitpicky, but it can make all the difference when it comes to documentation. Remember: Most physicians think these diagnoses are interchangeable.

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NOTE: Acute renal disease is NOT acute renal failure. "Acute-on-chronic renal disease" will code to N28.9 and N18.9—disorder of kidney and ureter, unspecified.

Another important factor to take into consideration when faced with this documentation snafu is the treatments that are being carried out, the medications that are being used, any dietary or fluid restrictions, and the patient's history of any renal conditions that may impact the kidneys (think HTN, DM, scleroderma). Sometimes finding the smaller building blocks makes it easier to see the whole picture.

ACUTE RENAL FAILURE OR ACUTE KIDNEY INJURY

These two terms are used interchangeably and describe a rapid decline in kidney function. It is characterized by an increase in creatinine level by 0.3 mg/dl or more in a 48-hour period or increase in creatinine level ≥ 1.5x baseline, which is known or presumed to have occurred within the prior seven days.

Possible Clinical Indicators: Oliguria, dysuria, uremia, altered mental status, acidosis, hyperkalemia, hypocalcemia, weight gain, rise in creatinine 0.3 from baseline in 48-hour period

Possible Risk Factors: Advanced age, arterial disease, liver disease, exisiting kidney disease, diabetes, urinary outlet obstructions, volume depletion, nephrotoxic medications

Possible Treatment: IV hydration, fluid restrictions to correct excess fluid, correction of electrolytes, dialysis, removing nephrotoxic agents

CATEGORIES OF ACUTE RENAL FAILURE AND ACUTE KIDNEY INJURY

	Pre-Renal	Intrinsic/Intra-Renal	Post-Renal
Urinalysis	Casts will be present	Proteinuria, WBC, RBC, epithelial cells	No significant abnormalities
Labs: BUN/Creat Ratio Urine Na	>20:1 <20	<10:1 >40	10:1–20:1 Not Applicable
Causes	Hypovolemia (dehydration, bleeding), sepsis and septic shock, CHF, medications (NSAID, ACE-I, ARBs)	ATN , ischemia, glomerular nephritis, malignant HTN renal vasculitis, renal artery stenosis, rhabdomyolysis (any intra-renal pathology)	Neurogenic bladder, BPH, renal stones causing obstruction, ureteral strictures, bladder neoplasm

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ICD-10 ACUTE RENAL FAILURE

Diagnosis	Code(s)	CC or MCC?
Other acute kidney failure	N17.8	CC
Acute kidney failure unspecified	N17.9	CC
Acute kidney injury	N17.9	CC
Acute renal failure with tubular necrosis (atn)	N17.0	MCC
Acute renal failure with acute cortical necrosis	N17.1	MCC
Acute renal failure with medullary necrosis	N17.2	MCC
Pre-renal uremia	R39.2	-
Pre-renal azotemia	R79.89	-
Acute renal insufficiency	N28.9	-

Notice that acute renal failure and acute kidney injury both result in the same code. Physicians may document either, and the facility still gets credit for the CC and increased severity.

ACUTE TUBULAR NECROSIS

ATN is one of the most common causes of renal failure in hospitalized patients. It can be caused by reactions to blood transfusions, muscle/organ damage from injury, low BP, sepsis, medications and contrast dye.

While ATN is one of the causes of acute renal failure, it is also a much more serious condition than acute renal failure. One of the biggest differences that can be looked at for diagnostic purposes is the return of baseline creatinine with fluid resuscitation. **Acute renal failure patients usually respond to IV fluids and creatinine trends down; in ATN creatinine levels remain elevated despite treatment.** They do not decrease with IV fluids, and if they do, it is at a dramatically slower rate. Other indicators that may be present if patient has ATN include the following:

- Muddy brown casts, WBCs, bilirubin, albumin, and/or blood in the urine (Urinalysis will be significant for the presence of "muddy brown casts" of epithelial cells found in analysis. The presence of these muddy casts arising from the necrotic tubular lining is pathognomonic for ATN. Hyaline casts do not indicate ATN.)
- US may show renal injury.
- Creatinine elevates and doesn't improve with fluid.
- Fractional excretion of sodium (FeNa) >2% (<1% in AKI)

ATN is a serious diagnosis and often requires temporary dialysis to assist in recovery. CDI specialists must understand this process and ensure there are enough indicators and a clear clinical picture prior to querying.

Note: A synonym in ICD-10 for ATN is "vasomotor nephropathy." Both vasomotor nephropathy and ATN will both code to N17.0 in ICD-10. "Toxic nephropathy" is not a synonym for ATN in ICD-10.

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CHRONIC RENAL FAILURE

Chronic renal failure or chronic kidney disease (CKD) is a progressive loss of renal function over a period of time (months to years). Often this process is so slow that symptoms of the disease take a long time to manifest themselves.

Stage	Description	GFR Level	CC/MCC
1	Slight diminish in function; normal or relatively high GFR	≥90	-
2	Mild reduction in GFR	60–89	-
3	Moderate reduction in GFR	30–59	-
4	Severe reduction in GFR	15–29	CC
5	Established renal failure patient, possible permanent renal replacement therapy	<15	CC
ESRD	Stage 5 CKD on dialysis	<15 requires dialysis	MCC
	History of kidney transplant/kidney transplant status	-	CC

It is important to remember that CKD stage 5 ≠ ESRD. If the doctor does not specify the stage of CKD, it is important to query for it. CKD of any stage can contribute to SOI/ROM levels and several renal failure diagnoses also provide a CC or MCC. Also, getting this established—and documented in a problem list—can get this diagnosis solidified for the patient as a permanent part of their medical record.

Chronic renal insufficiency, chronic renal failure, or chronic renal disease are equivalent terms for CKD but must also be staged. *(CDI Pocket Guide, 2016)*

> If CKD is due to diabetes it is important for the documentation to specify the type of diabetes and all diabetic kidney or other manifestations and whether the diabetes is controlled or not. In addition to the diabetes, the CKD stage should be clear in the documentation also.

Possible Clinical Indicators: Proteinuria, decreased GFR, reduced creatinine clearance, electrolyte abnormalities including magnesium and phosphate, anemia, HTN, edema, malnutrition, muscle cramps, anorexia, decreased urine output, fatigue, elevated BUN/creat, fluid overload

Possible Risk Factors: Hypertension, diabetes, heart disease, smoking, obesity, high cholesterol, arterial disease, family history, advanced age

Possible Treatment: There is no cure for CRF and the treatment is driven by symptom-control, decreasing complications and yielding disease progression. BP control, control of heart disease, DM management, dialysis, transplant.

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OTHER KIDNEY AND URINARY TRACT DIAGNOSES: CHRONIC KIDNEY DISEASE DUE TO DIABETES MELLITUS—MS-DRGS 698–700

Diabetes is a common comorbidity for CKD patients; however, this does not necessarily mean the renal failure is a complication of the diabetes. ~~In order to determine a causal relationship, the two must be linked.~~ If diabetes and CKD are listed as diagnoses but are not **linked**, a query may be required to determine if the diabetes is the underlying cause or a contributing factor to the CKD. Diabetic CKD is a combination code that combines the diagnosis of diabetes with the CKD. The stage of CKD should also be coded.

> If CKD is due to diabetes, it is important for the documentation to specify the type of diabetes and all diabetic kidney or other manifestations and whether the diabetes is controlled or not. In addition to the diabetes, the CKD stage should be clear in the documentation also.

CKD DUE TO HYPERTENSION

Per coding guidelines, there is an assumed relationship between hypertension and CKD. Unless the physician states otherwise ("CKD not due to hypertension") the link/relationship is presumed.

ICD-10 CHRONIC RENAL FAILURE/CHRONIC KIDNEY DISEASE

Diagnosis	Code(s)	CC or MCC?	SOI & ROM
Chronic kidney disease, unspecified (chronic uremia)	N18.9	-	1/1
Chronic kidney disease, stage 1	N18.1	-	1/1
Chronic kidney disease, stage 2 (mild)	N18.2	-	1/1
Chronic kidney disease, stage 3 (moderate)	N18.3	-	1/2
Chronic kidney disease, stage 4 (severe)	N18.4	CC	2/3
Chronic kidney disease, stage 5 (This excludes CKD 5, which requires dialysis.)	N18.5	CC	2/2
End stage renal disease (CKD requiring chronic dialysis)	N18.6	MCC	2/2

URINARY TRACT INFECTION

A UTI is when there is any bacterial infection in the urinary tract. The most common part of the urinary tract to develop infection is the bladder (acute cystitis). If the infection is higher in the tract including the kidneys it is known as pyelonephritis, which is often more serious.

Possible Clinical Indicators: Leukocyte esterase present in UA, dysuria, hematuria, increased or changed frequency, cloudy urine, fever/chills, suprapubic pain, "weakness"

Possible Risk Factors: Urinary catheter, sexually active females, advanced age, supressed immune symptoms, poor personal hygiene, urinary obstruction, nursing home resident

Possible Treatment: UA, urine culture, bacteria-specific antibiotics, Foley cath for obstructions, renal ultrasound, education

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ICD-10 URINARY TRACT INFECTION

Diagnosis	Code(s)	CC or MCC?
Acute cystitis without hematuria	N30.00	CC
Acute cystitis with hematuria	N30.01	CC
Interstitial cystitis without hematuria (chronic)	N30.10	-
Interstitial cystitis with hematuria (chronic)	N30.11	-
UTI site not specified	N39.0	CC
Pyelonephritis	Multiple codes	Can be CC

UROSEPSIS

High-Risk MS-DRG

Urosepsis is a word that providers often use to describe a UTI that has become generalized sepsis. Physicians must be queried for clarification in order to capture the accurate presentation and severity of the patient, which often leads to the sepsis MS-DRG.

Urosepsis is not a diagnosis in ICD-10. This means that if a patient's record or discharge summary reads "urosepsis" as their principal problem, the coder will have no choice but to stop the bill and send a query. If the physician never answers the query, your hospital will never be able to bill for this record. This would be a good case to send for an escalation process.

UROSEPSIS CLARIFICATION: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Your patient has "urosepsis" documented in the medical record.

Can this be further specified?

- Sepsis 2/2 to UTI, present on admission
- UTI only, no sepsis this admission
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: WBC & leukocytosis on UA on admission, temp 102.6, HR 100–125, WBC 17.2

Risk Factors: Nursing home resident with history of frequent UTIs 2/2 to incontinence

Treatment: IV antibiotics (Rocephin, Azithromycin, Zosyn), IV fluids, checking blood and urine cultures

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

To effectively code a CAUTI, there has to be a **cause-and-effect link**. For example, the physician will have to document "UTI related to indwelling catheter," and if the relationship is not specifically documented, only UTI can be coded. Coders and CDI specialists cannot make assumptions.

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While some HACs cannot be prevented, it is often not even that the patient truly has a HAC but that the documentation doesn't clearly specify if a condition is POA, especially in situations when the documentation is not completed timely or the condition is not confirmed until day two. Thus, after final coding, the condition appears as though it is a HAC, and the hospital takes the fall, if the POA status is not queried.

A **real** CAUTI creates concerns about additional coding of secondary diagnosis. The occurrence of a real CAUTI (meaning it is not POA) excludes the following as CCs or MCCs as secondary diagnoses:

- Candidiasis of urogenital site (CC)
- Acute pyelonephritis (CC)
- Chronic pyelonephritis (CC)
- Renal and perinephric abscess (MCC)
- Pyelonephritis, unspecified (CC)
- Pyelitis cystica, pyeloureteritis cystica, or ureteritis cysyica (CC)
- Pyonephrosis (CC)
- Acute cystitis (CC)
- Urethral abscess (CC)
- UTI, site not specified (CC).

Pay close attention to urinalysis on admission. UTIs are frequently "forgotten about" in the progress notes for a couple of days. If the UTI is diagnosed later in admission always look at admission urine and symptomology to see if there is potential for **POA query**. There may be an opportunity to bring this diagnosis back to admission and avoid a HAC with this diagnosis.

IS THE UTI SECONDARY TO A SPECIFIC GERM?

If your patient's UTI is found to be secondary to a particular germ, the physician needs to specify this in the documentation. An assumption cannot be made based on culture growth. The following are examples of good cause-and-effect documentation.

- E. Coli UTI
- UTI secondary to Candidiasis
- UTI due to Staphylococcus

Depending on the germ and if this is your principal diagnosis, this clarification can change the MS-DRG. The following "germs-linked-to-UTI" will move the MS-DRG out of 690 and 689 (simple UTI):

- UTI secondary to Candidiasis
- UTI secondary to Moniliasis or yeast
- Gonococcal UTI
- Trichomonal UTI.

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CODING GUIDELINE **AHA CODING CLINIC FOR ICD-10 (2ND Q 2001, PAGE 13)**

NONCOMPLIANCE WITH DIALYSIS: FLUID OVERLOAD AND CHF

No current Coding Clinic *addresses this issue for ICD-10. Although the information below is directed at ICD-9, the advice seems logical. However, please keep yourself updated on any coding changes in the future.*

QUESTION: If a patient is admitted with fluid overload and congestive heart failure due to **noncompliance** with dialysis and treatment consists of dialysis, what is the principal diagnosis?

ANSWER: When the patient is admitted in CHF resulting from fluid overload, secondary to noncompliance with dialysis treatment, assign code 428.0, Congestive heart failure, as the principal diagnosis. Code 585, Chronic renal failure, code V15.81, Noncompliance with medical treatment, and code V45.1, Renal dialysis status, may be assigned as additional diagnoses.

MDC 11: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Renal chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute**." **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	CHF unspecified Left heart failure with right-sided heart failure Cirrhosis of liver CKD stage 3 Cystitis	DM uncontrolled Eating disorder Electrolyte/Fluid disorder Failure to thrive, adult Hypercalcemia	Hypocalcemia Hyperkalemia Hypotension Oliguria/Anuria Renal calculus

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Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/Alkalosis Acute kidney injury/acute renal failure Anemia, acute blood loss, post-op blood loss anemia (post-op ABLA) Anorexia nervosa, bulimia nervosa Bacteremia BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity) C. difficile enteritis Cachexia/Emaciated Calculus of ureter Candidiasis of mouth or urogenital sites Left heart failure	CHF or heart failure, systolic/diastolic/combined Chronic CKD stages 4 and 5 Complications of transplanted organs Cystitis, acute Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) History of transplant (bone marrow, heart, lung, intestines, kidney, liver, pancreas, peripheral stem cells) Hydronephrosis Hydroureter Hypo- and hypernatremia	Leukemia and lymphoma malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Nephrotic syndrome Polycystic kidney Rhabdomyolysis Shock, unspecified SIRS, noninfectious without acute organ dysfunction UTI/Pyelonephritis
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure CHF, systolic/diastolic/combined, acute or exacerbation Coma Diabetes, hyperosmolar with or without coma (Determine whether it is POA. If it develops during the inpatient stay, consider a HAC.) Diabetes with coma Diabetes with ketoacidosis (Determine whether it is POA. If it develops during the inpatient stay, consider a HAC.)	Encephalopathy (metabolic, toxic, septic) ESRD Hepatic coma or hepatic encephalopathy (acute/subacute) Hepatorenal syndrome Malnutrition, protein-calorie (severe, nutritional marasmus) Sepsis, severe sepsis, septic shock (as SDX) Shock, hemorrhagic, hypovolemic, septic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction	

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MDC 11 CASE STUDIES

CASE STUDY 1

54 y/o male with history of HTN arrives to the ER c/o cough, fever, and sputum production. He is diagnosed with pneumonia and started on broad-spectrum antibiotics (Rocephin, Azithromycin) and IV fluids. You notice that on admission his BUN is 37, creatinine is 2.9 and GFR 42. On hospital day 3, his creatinine has improved to 1.7. The following is documented in a progress note from hospital day 3:

PROBLEMS:

1) Pneumonia. Definitely improving with current treatment. Unable to produce sputum for culture, continue current plan of care.
2) Acute renal insufficiency. Unclear if chronic component but does not appear so. Continue fluids at 100ml/hr.
3) HTN. Metoprolol scheduled.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

EXPANDING ON THE ABOVE CASE STUDY

Let's say the same patient above has a creatinine of 2.9 on admission. He receives IV fluids (bolus and continuous) throughout the first three days of his hospitalization. On hospital day 3 his creatinine is 2.8, and a renal consult is ordered.

Based on what you've learned thus far, what would be a possible query opportunity in this case?

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CASE STUDY 2

82 y/o female presents to the ER with foul-smelling urine. Her UA reveals leukocytosis, WBC, RBC, and yeast. Labs reveal the following: WBC 14.2, BUN 16, creatinine 1.9, GFR 17. You see the following RN Progress Note:

PROGRESS NOTE

"Pleasant female, overall good shift and improving. After transfer up to floor Foley catheter changed out. patient apparently has had it for 2 weeks 2/2 to incontinence and neurogenic bladder. WBC 13.1 today. Daughter visited for several hours. Spoke with home health nurse to confirm cath – Love & Sharing Health, Jane Doe LPN. 555-555-1111."

On hospital day 3 her labs reveal the following: WBC 9.4, BUN 14, Creatinine 1.3, GFR 22. The following is documented in her hospital day 3 PN:

PROBLEMS:

1) UTI POA. Started on Aztrenoam 2/2 to frequent infections.

2) CKD. IV fluids, patient responding well. Mild acute component.

3) Hx GERD, old MI, and breast cancer > 20 years ago.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDCs 12 AND 13: DISEASES AND DISORDERS OF THE MALE AND FEMALE REPRODUCTIVE SYSTEMS

We will not spend very much time going over these chapters, because you are not going to end up in these MS-DRGs very often for inpatient reviews. There are only nine male reproductive medical MS-DRGs and only eight female reproductive medical MS-DRGs. The rest are surgical. The great thing about the surgical MS-DRGs in both of these chapters is most of them move with a CC or an MCC.

As you are reviewing these records, ensure that the correct principal diagnosis is documented for your patient. For example:

- Malignancy
- Hyperplasia
- Infection or inflammation
- Stress incontinence
- Vaginal, cervical, or uterine disorder
- Testis or spermatic cord disorder

Also, ensure your patient has all additional/secondary diagnoses documented well enough to code out.

Review these cases as you would any other surgical case and be on the lookout for query opportunities, such as the following:

- Encephalopathy? Dementia with Behavioral Disturbance? (See MDC 1.)
- Any respiratory issue? Acute or chronic respiratory failure? (See MDC 4.)
- CHF, chronic or exacerbation? (See MDC 5.)
- Is the patient malnourished? (See MDC 10)
- Any acute renal failure post-op? (See MDC 11.)
- Does the patient have a CKD that needs to be staged? (See MDC 11)
- Anemia specificity? (Think acute blood loss anemia.) (See MDC 16.)
- Is the patient obese or morbidly obese? (See MDC 10.)

You get the drift. Keep your eyes peeled during these reviews, particularly for acute or chronic issues that require increased specificity.

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MDCs 12 AND 13: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the male and female chapters. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/Alkalosis Acute kidney injury/acute renal failure Air leak from chest tube Air leak, postoperative Alcoholic withdrawal delirium, alcohol withdrawal Anemia, acute blood loss (ABLA) Anemia, blood loss post-op (post-op ABLA) Ascites Atelectasis (pulmonary collapse) Atrial fib, persistent or postop surgery (no hx of afib) Atrial flutter Bacteremia Bleeding, anal/rectal (blood in stool—melena) BMI ≤ 19, BMI > 40 (**w/ linked** diagnosis: underweight, morbid obesity) C. difficile enteritis	CHF or heart failure, systolic/diastolic/combined Chronic CKD stages 4 and 5 Complications of transplanted organs Cystitis, acute Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) History of transplant (bone marrow, heart, lung, intestines, kidney, liver, pancreas, peripheral stem cells) Hydronephrosis Hydroureter Hypo- and hypernatremia	Leukemia and lymphoma malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Nephrotic syndrome Polycystic kidney Rhabdomyolysis Shock, unspecified SIRS, noninfectious without acute organ dysfunction UTI/Pyelonephritis
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) Brain death Cardiac arrest, discharged alive Cerebral edema CHF, systolic/diastolic/combined, acute or acute on chronic Coma	Encephalopathy (metabolic, toxic, septic) ESRD Hepatic coma or hepatic encephalopathy (acute/subacute) Hepatorenal syndrome Malnutrition, protein-calorie (severe, nutritional marasmus) Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 and 4 (If not POA will code to a HAC) Sepsis, severe sepsis, septic shock (as SDX) Shock, hemorrhagic, hypovolemic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction	

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MDC 16: DISEASES AND DISORDERS OF THE BLOOD AND BLOOD-FORMING ORGANS AND IMMUNOLOGICAL DISORDERS

ANEMIA

Anemia is defined as "a medical condition in which the RBC count or hemoglobin is less than normal"—a definition that's not very helpful. Not only is this term difficult to define but the specificity can be important when identifying principal and secondary diagnoses. Physicians frequently leave documentation of "anemia" unspecified. When CDI programs first start, one of the most frequent queries you will send will be for clarification of "anemia."

Documentation of anemia should include the type and acuity.

Type:

- Blood loss
  - Complication of a procedure
  - Other source (must specify)
- Aplastic
- Due to neoplasm
- Due to chronic kidney disease
- Nutritional
- Hemolytic
- Iron deficiency
- Due to chemotherapy

Not all "**postprocedural blood loss anemias**" are considered a complication of the procedure and should not be coded as such unless the provider has documented this disorder as one. Post-procedure ABLA can be coded without being considered a complication, and the complication codes would not be assigned in these instances, only the code D62.

Acuity:

- Acute
- Chronic
- Acute-on-chronic

Example of Good Documentation: "Acute blood loss anemia, secondary to digestive malignancy"

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Anemia can be a principal diagnosis, but remember the principal diagnosis rules. If a patient is admitted with a GI bleed and ABLA, the GI bleed will likely be the PDX due to the evaluation and treatment provided. However, if a patient is admitted for the treatment of anemia and the patient has a known GI bleeding source—and this is their primary treatment—then the anemia will be the PDX. It can take intense review of a record to determine the PDX.

NOTE: There is a guideline change in ICD-10-CM regarding anemia in chronic disease. You may need to query for the specificity of the chronic disease since it is not always linked in a patient with CKD and neoplasm.

ANEMIA ASSOCIATED WITH MALIGNANCY

When the admission/encounter is for management of an anemia associated with the malignancy, and the treatment is only for anemia, **the appropriate code for the malignancy is sequenced as the principal** or first-listed diagnosis followed by the appropriate code for the anemia (such as code D63.0—anemia in neoplastic disease).

For examples of sequencing direction, refer to the tabular instructions under codes D63.1 (anemia in CKD), D63.0 (anemia in neoplastic disease) and D63.8 (anemia in other chronic diseases classified elsewhere).

PANCYTOPENIA

Pancytopenia is defined as a deficit of red blood cells, white blood cells, and platelets. **It is frequently caused by drugs, in particular chemotherapy**. Patients who experience pancytopenia are severely sick and often require multiple transfusions and stopping the offending drug (i.e., chemotherapy). Aplastic anemia is a condition that occurs when the body stops producing enough new blood cells. Physicians may also refer to pancytopenia as "aplastic anemia." (Although that phrase is being phased out, it is still the proper coding terminology.)

If your patient has low RBCs, WBCs, and platelets, make sure you are trending these daily in your review of the record. "Just" having these low lab values—with no other treatment or symptoms—does not qualify or meet criteria for pancytopenia. However, it is an extremely valuable query topic when the patient has low levels of all three blood components and they are being treated.

ICD-10: ANEMIAS

Diagnosis	Code(s)	CC or MCC?
Acute blood loss anemia	D62	CC
Blood loss anemia, postoperative	D62	CC
Chronic blood loss anemia	D50.0	-
Iron-deficiency anemia	D50.0	-
Anemia in CKD	D63.1	-
Anemia in neoplastic disease	D63.0	-
Anemia due to chemotherapy	D64.81	-

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Diagnosis	Code(s)	CC or MCC?
Aplastic anemia due to chemotherapy or other drug	D61.1	MCC
Nutritional anemia	D53.9	-
Anemia, unspecified	D64.9	-
Aplastic anemia, unspecified	D61.9	CC
Aplastic anemia, 2/2 to drug	D61.1	MCC
Pancytopenia, unspecified	D61.818	CC
Pancytopenia, due to chemotherapy	D61.810	MCC
Pancytopenia due to other drug	D61.811	MCC

What does the above chart show us? If your patient's pancytopenia is secondary to chemotherapy or another drug, this relationship must be documented in order to establish the MCC. It must be stated "Pancytopenia 2/2 to _____." Pancytopenia unspecified codes as a CC.

You may see documentation like "low H&H, RBC, and platelets with thrombocytopenia and patient on chemo – give 2 units PRBCs." With the exception of thrombocytopenia those are simply lab value findings that will require a query.

NEUTROPENIC FEVER

COULD YOUR PATIENT HAVE SEPSIS OR A BACTERIAL INFECTION?

Many patients with cancer or who are going through chemotherapy will suddenly experience low levels of neutrophils in their blood, which is called neutropenia. Patients have this condition may be admitted with "neutropenic fever" as their principal diagnosis. Occasionally, this is all there is to it. However, they could have a serious bacterial infection or even be septic.

Let's walk through the MS-DRG buildup, which is shown below.

ICD-10 URINARY TRACT INFECTION

PDX	MS-DRG	RW	GMLOS
Neutropenic fever	MS-DRG 810: Major Hematol/Immun Dx w/o CC/MCC MS-DRG 809: Major Hematol/Immun Dx with CC MS-DRG 808: Major Hematol/Immun Dx with MCC	0.9220 1.2045 2.1492	2.6 days 3.6 days 5.5 days
Bacterial infection, unspecified	MS-DRG 869: Other Infectious & Parasitic Diseases w/o CC/MCC MS-DRG 868: Other Infectious & Parasitic Diseases with CC MS-DRG 867: Other Infectious & Parasitic Diseases with MCC	0.7679 1.0769 2.1329	2.7 days 3.6 days 5.6 days
Sepsis (w/out vent 96+ hrs)	MS-DRG 872: Septicemia or Severe Sepsis w/o MV w/o MCC MS-DRG 871: Septicemia or Severe Sepsis w/o MV with MCC	1.0529 1.8564	3.7 days 4.8 days

If it appears that your patient has more going on than "neutropenic fever," you will likely need to query. If neutropenic fever is your principal diagnosis, then pancytopenia secondary to chemotherapy will not "count" as an MCC (though we can still code it). Because of the Exclude 1 note that coincides with diagnosis code D61, it is necessary to use caution if applying both codes discussed in this paragraph. According to interim coding advice 2015, it is appropriate for both of these diagnosis to be reported together.

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CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (4TH Q 2014, VOL. 1, NUMBER 4)

QUESTION: A patient with anemia and thrombocytopenia is admitted with fever and neutropenia. The provider documented that the neutropenia and anemia are secondary to chemotherapy for medulloblastoma with spinal metastasis. Since pancytopenia includes anemia, neutropenia and thrombocytopenia, is it appropriate to assign a code for pancytopenia when the neutropenia is secondary to chemotherapy?

ANSWER: Assign code D70.1, Agranulocytosis secondary to cancer chemotherapy, as the principal diagnosis. Codes R50.81, Fever with conditions classified else¬where, T45.1X5A, Adverse effect of antineoplastic and immunosuppressive drug, Initial encounter, D64.81, Anemia due to antineoplastic chemother¬apy, D69.59, Other secondary thrombocytopenia, should be assigned as additional diagnoses. Patients may present with both pancytopenia and neutropenia with fever. They are clinically differ¬ent processes. The pancytopenia code alone does not convey the complete clinical picture. However, the excludes1 note at category D61, Other aplastic anemias and other bone marrow failure syndromes, prohibits assigning code D70.1 along with a pancy-topenia code in this category. The National Center for Health Statistics (NCHS) has agreed to address the issue of the Excludes 1 at category D61 at a future ICD-10-CM Coordination and Maintenance Committee (C&M) meeting. As of September 2017, this topic has not been discussed at the Coordination and Maintenance Committee Meeting.

COAGULOPATHY AND DIC

Coagulation is defined as the clotting of the blood or the process by which blood clots to form solid masses or clots. In most individuals this process works smoothly. However, many disease processes can alter this course and have serious outcomes on health.

Coagulopathy occurs when the body's ability to clot is diminished. There are several types of coagulopathies and the type needs to be specified in the documentation:

- Disseminated intravascular coagulopathy
- Hereditary factor VIII deficiency
- Hereditary factor IX deficiency
- Hereditary factor XI deficiency
- Hereditary deficiency of other clotting factors
- von Willebrand's disease
- Acquired coagulation factor deficiency
- Primary thrombophilia
  - Activated protein C resistance
  - Prothrombin gene mutation
- Other thrombophilia
  - Antiphospholipid syndrome
  - Lupus anticoagulant syndrome

Though these disorders are rare, they do occasionally require querying for specificity.

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CODING GUIDELINE

"**Coagulopathy**" as a secondary diagnosis is a CC. It is **not** appropriate to classify prolonged PT or PTT or elevated INR levels secondary to Coumadin. Do not use coagulopathy to identify any bleeding caused by Coumadin (even if this is the documentation in the record). You should query for clarification.

NOTE: This is supported in *Coding Clinic for ICD-9* (2nd Quarter 2006, page 17). There is not a current coding clinic that addresses this issue in ICD-10. However, the advice below still seems logical. However, please keep yourself updated on all new coding clinics and any coding changes in the future.

QUESTION: A patient is admitted with hemoptysis and blood in stool. The physician states that the hemoptysis and blood in stool were due to **coagulopathy** related to the patient's recent usage of Coumadin. What is the appropriate diagnosis code assignment(s) for this case?

ANSWER: ~~Assign hemoptysis or blood in stool as the principal diagnosis~~. A code from Coagulation defects is not appropriate for patients on anticoagulant therapy.

ANEMIA/LOW H&H SPECIFICITY: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient has "low H&H, giving 2 units PRBCs" documented

Can this be further specified?

- Acute blood loss anemia
- Chronic blood loss anemia
- Anemia, unspecified
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: Postoperative patient with H&H 6.9/23.7, + dizziness, EBL 300cc in the operating room

Risk Factors: Recent surgery, history of anemia postoperatively

Treatment: 2 units PRBCs, daily or 2x daily H&H/CBC level monitoring, IV fluid

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

MDC 16: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Blood chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as

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specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Cirrhosis of liver CKD, stage 3 COPD COPD w/ asthma	Failure to thrive, adult Hypercalcemia Hypocalcemia Hypotension	Neutropenia Nutritional deficiency Sickle cell disease Thrombocytopenia
Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acquired hemophilia Acute kidney injury/acute renal failure Alcohol dependence with alcohol-induced dementia Alcohol dependence with alcoholic chronic brain syndrome Alcohol use unspecified with psychosis Alcoholic withdrawal delirium, alcohol withdrawal Anal or rectal abscess Anemia, acute blood loss (ABLA) Anemia, blood loss post-op (post-op ABLA) Anemia, aplastic unspecified Anemia, autoimmune hemolytic	Bacteremia Bleeding, anal/rectal (blood in stool—melena) BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity) C. difficile enteritis Cachexia/Emaciated Carcinomatosis CKD, stages 4 and 5 Coagulopathy COPD, acute exacerbation COPD, with acute bronchitis DVT Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Esophageal ulcer GI bleed Hematemesis/Hemoptysis HIV disease/AIDS	Leukemia and lymphoma malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer pancytopenia, unspecified Polycystic kidney Pulmonary embolism, chronic respiratory failure Shock, postoperative, unspecified Shock, unspecified SIRS, noninfectious without acute organ dysfunction
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Anemia, aplastic 2/2 to drug Cardiac arrest, DC alive Cerebral edema Coma Congenital factor 8 disorder Congenital factor 9 disorder Defibrination syndrome or DIC Duodenal ulcer with hemorrhage, acute	Encephalopathy (metabolic, toxic, septic) Esophageal ulcer with bleeding ESRD HB-sickle cell disease w/ crisis Other sickle cell disease with crisis Hemorrhagic gastritis Hepatic coma or hepatic encephalopathy (acute/subacute) Liver abscess Liver necrosis, acute/subacute Mallory-Weiss tear Malnutrition, protein-calorie (severe, nutritional marasmus)	Pancytopenia 2/2 to chemotherapy Pancytopenia 2/2 to other drug Perforation of intestine Pulmonary embolism (new/acute) Sepsis, severe sepsis, septic shock (as SDX) Shock, cardiogenic, hemorrhagic, hypovolemic, septic, traumatic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction Tumor lysis syndrome

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MDC 16 CASE STUDIES

CASE STUDY 1

81 y/o female with little PMH presents for a planned left total shoulder arthroplasty with EBL 150ml. Postoperatively she is doing well; however, on POD #1 she experiences a syncopal episode while getting out of bed to walk with nursing down the hallway. STAT labs are drawn and show an H&H of 7.2/24.1. She is transfused 2 units of blood with 2L of IV fluids and tells the surgeon "I feel much better." Documentation in her PN on hospital day 2 includes:

PROBLEMS:

1) DJD left shoulder – POD #3 s/p shoulder arthroplasty. Doing well from ortho standpoint.

2) Anemia – improved after receiving 2 units. Apparently this same thing happened about 10 years ago following her knee surgery as well. Likely acute on chronic anemia – needs work up as outpatient.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

32 y/o female presents to the hospital for her 4th planned round of chemotherapy for breast cancer. Other than her cancer and C-section x 1 she has no PMH. Her labs are trending like this:

	6/12/15 (0421)	6/13/15 (0438)	6/13/15 (1614)	6/14/15 (0502)
WBC				
RBC	4.0	3.6	2.8	2.4
Hgb	11.4	9.4	7.9	6.1
Hct	31.1	28.4	26.2	21.4
Platelets	225,000	164,000	121,000	86,000

The following documentation is in the patient's record for progress note 6/15/15:

PROBLEMS:

1) 32 y/o female who has had trouble tolerating chemo in the past before. Today anemic and pale, thrombocytopenia as well. Transfuse 1 unit then recheck labs. Will likely need another unit and maybe platelets. Only 1 more dose of Cytoxan left; Oncology already on case, will consult with them to see how they want to proceed.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 17: MYELOPROLIFERATIVE DISEASES AND DISORDERS AND POORLY DIFFERENTIATED NEOPLASMS (CANCER)

CANCER CODING GUIDELINES

There are several rules for ensuring we assign the correct principal diagnosis for patients with cancer. Some patients present to the hospital with warning signs or symptoms. Others are in the midst of chemotherapy and present for terrible side effects. Some are simply admitted for pain. Regardless of what a cancer patient is admitted for, there are guidelines that help us choose the appropriate principal diagnosis.

ICD-10 Coding Guidelines	
Treatment Directed Towards...	**Principal Diagnosis**
Primary neoplasm	Primary neoplasm
Metastatic site	Metastatic site
Anemia 2/2 to malignancy	Malignancy*
Anemia 2/2 to chemo	Anemia
Dehydration	Dehydration
Complication of surgery	Complication
Surgery *and* chemo of neoplasm	Neoplasm
Chemo for neoplasm/leukemia	Admit for chemo
Radiation for neoplasm	Admit for radiation
Immunotherapy	Admit for immunotherapy
Pregnant patient w/malignancy	Pregnancy complication
Pain 2/2 to neoplasm	Neoplasm-related pain

**Be aware that this is a change from ICD-9-CM.*

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Mass ≠ Neoplasm
Mass ≠ Cancer

The term "mass" does not accurately reflect the severity of illness for that patient or resources consumed during an inpatient stay (oncology consult, medications, increased nursing care, etc.). Physicians frequently document mass postoperatively as they are waiting on pathology results; this can result in "mass" being coded as the patient's principal diagnosis. If you see this, **query!** Remember, "mass - likely cancer," or "probable sigmoid neoplasm" will final-code with the cancer/neoplasm as PDX if documented at the time of discharge.

QUERY EXAMPLE:

Clinical Scenario: Oncologist Dr. Smith has documented "adenocarcinoma of the sigmoid colon." The patient's DC summary reads "Sigmoid Mass-results pending"

Do you agree with the oncologist specifying the "sigmoid mass" as an "adenocarcinoma of the sigmoid colon?" Please document your response in the health record or below.

- Yes, patient has adenocarcioma of the sigmoid colon
- No, patient has sigmoid mass only
- Other, please specify _____

INCREASED NEOPLASM SPECIFICITY IN ICD-10

All cancers should be coded out to their highest specificity. In ICD-10 you may need to query for the following details:

Behavior:

- Malignant (primary, secondary, in situ)
- Benign
- Behavior unspecified
- Uncertain histological behavior

Laterality:

- Right
- Left
- Bilateral

Some random facts about coding cancer charts:

- If the reason that your patient is being admitted is for planned chemotherapy or radiation therapy, his or her principal diagnosis will be "encounter for antineoplastic chemotherapy" or "encounter for radiation therapy." If the chemotherapy or radiation is unplanned then the likely principal diagnosis will be the cancer.
- If your patient is admitted for pain control 2/2 to neoplasm, assign code G89.3. This will take us to MS-DRG 948 or 947 (signs and symptoms with or without MCC), which is normally considered a "high-risk" MS-DRG, which is entirely appropriate for this patient.
- If your patient has lymph node chains removed during surgery, you may need to query for clarification, as there are increased coding needs in ICD-10:
  - Document extent of excision/resection:
    - Entire lymph node chain

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- Portion of lymph node chain (sentinel, single, or several nodes)
- Document site *(head, right/left neck, right/left UE, right/left axillary, thorax, right/left internal mammary, mesenteric, pelvis, aortic, right/left LE, right/left inguinal)*

– If you are able to get this clarified while the patient is in house, coding will be thankful!

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (3RD Q 2015, VOL. 2, NUMBER 3)

~~"IMMUNOCOMPROMISED STATE"~~

QUESTION: How is immunocompromised state due to medication or other cause (e.g., AIDS, cancer) coded? The physician documented in the discharge summary that the "patient has an immunocompromised state, on immunosuppressants." Is this considered an adverse effect of the medication? Additionally, how is long-term use of an immunosuppressant drug coded?

ANSWER: ~~**Do not assign a code for an immunocompromised state caused by drug treatment or an underlying disease process, such as AIDS, cancer, etc**~~. When a patient is taking the immunosuppressant medication as prescribed, the intent is to suppress the immune system. Assign code Z79.899, Other long-term (current) drug therapy, to show the long-term use of immunosuppressants. The ICD-10-CM does not provide a specific code to identify these drugs. Immunosuppressants are commonly used to treat autoimmune diseases, such as lupus, Crohn's disease, myasthenia gravis, rheumatoid arthritis, etc., and they are also used to prevent organ rejection in transplant patients.

QUESTION: When the physician documents in his final diagnostic statement "Immunocompromised State" and it is not caused by medication or due to an underlying disease process, should immunocompromised state be coded?

ANSWER: Yes, assign code D89.9, Disorder involving the immune mechanism, unspecified, and if no underlying cause of the immunocompromised state has been identified. This code should only be assigned if no specific disease process or drug has been identified as causing the immunocompromised state.

QUERY OPPORTUNITY—CANCER PATIENTS

Besides getting "mass" clarified you may frequently find yourself querying for secondary/additional diagnoses in cancer patients. Cancer and chemotherapy are extremely taxing on the human body and these patients often have multiple comorbidities before and during admission. You may find yourself querying frequently for the following topics:

- Anemia specificity
- Pancytopenia specificity (cause)
- Protein-calorie malnutrition (mild, moderate, severe)
- Underweight, cachexia, emaciated
- Respiratory failure (acute, chronic, or combined)
- Dehydration, acute renal failure, ATN

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- CHF clarifications (specificity and type)
- Sepsis
- Pressure ulcers
- Encephalopathy

MDC 17: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Cancer chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Anorexia CHF unspecified Left heart failure with right-sided heart failure CKD stage 3 Cor pulmonale, chronic	Cystitis Dependence on supplemental O2 Dysphagia Eating disorder Electrolyte/fluid disorder	Failure to thrive, adult Hypotension Neutropenia Nutritional deficiency Thrombocytopenia
Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acute kidney injury/acute renal failure Air leak from chest tube Anemia, acute blood loss (ABLA) Bacteremia BMI ≤ 19, BMI > 40 (**with linked** diagnosis, underweight, morbid obesity) C. difficile enteritis Cachexia/emaciated Carcinomatosis Cellulitis/abscess CHF or heart failure, systolic/diastolic/combined chronic Left heart failure CKD stage 4 and 5	Complications of transplanted organs COPD, acute exacerbation dementia w/ behavioral disturbance Depression, major/acute, mild, moderate, recurrent Drug-induced delirium Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Gangrene GI bleed Hematemesis/hemoptysis History of transplant (bone marrow, heart, lung, intestines, kidney, liver, pancreas, peripheral stem cells) Hyponatremia and hypernatremia Ileus HIV disease/AIDS	Jaundice/leukemia and lymphoma Malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Pancytopenia, unspecified Pathological fractures Respiratory distress, acute Respiratory failure, chronic SBO Shock, unspecified SIRS, noninfectious w/out acute organ dysfunction Stoma complications Suicidal ideation Thrush, oral UTI/pyelonephritis

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Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC. **Secondary Diagnosis = SDX**	Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Anemia – aplastic 2/2 to drug Cerebral edema CHF – systolic/diastolic/combined, acute or exacerbation Coma Encephalopathy (metabolic, toxic, septic) ESRD Hepatic coma or hepatic encephalopathy (*acute/subacute)	Hepatorenal syndrome Malnutrition – protein-calorie (severe, nutritional marasmus) Necrotizing fasciitis Pancytopenia 2/2 to chemotherapy Pancytopenia 2/2 to other drug Pneumonia – all (including aspiration PNA) Pressure ulcer stages 3 & 4 (If not POA will code to a HAC.) Sepsis, severe sepsis, septic shock (as SDX) Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction Tumor lysis syndrome

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MDC 17 CASE STUDY

CASE STUDY 1

56 y/o male patient presents with worsening abdominal pain and blood in his stool "for a couple weeks, I'm not sure." Guaiac + stool with H&H 14.2/36.4. Per his wife he has had decreased appetite for several months and has lost approximately 20 lbs. without trying with a BMI of 20.1. Oncology is consulted and a nutritional eval is ordered for him. The following is documented in the oncology progress note on hospital day #2:

PROBLEMS:

1) Per MRI 3x4cm mass in the mid-descending colon. Fearful this is neoplastic based on patient's presentation. Needs surgery to remove and biopsy and will likely need chemotherapy as outpatient. Consulting Dr. Wayback of Gen Surg to go from here.
2) Decreased appetite, per nutritional eval has likely not been eating enough for months. At outpatient visit 4 months ago weighed 178 lbs – now weighs 151. Again, fearful this is neoplastic related. Ordering Ensure TID to start.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 18: INFECTIOUS AND PARASITIC DISEASES, SYSTEMIC OR UNSPECIFIED SITES

The *Journal of the American Medical Association* (JAMA) recently released new sepsis definition/criteria, which are provided below. The new definitions were published in the February 23, 2016, issue of *JAMA* (2016;315:801-810).

Acronyms used below: mean arterial pressure (MAP), central nervous system (CNS), and peripheral arterial oxygen saturation (SaO2).

The Sofa Score				
Sofa Score	**1**	**2**	**3**	**4**
Respiration[a] PaO2/FIO2 (mm Hg)	<400	<300	<220	<100
SaO2/FIO2	221–301	142–220	67–141	<67
PLTs x 10^3/mm^3	<150	<100	<50	<20
Bilirubin (mm/dL)	1.2–1.9	2.0–5.9	6.0–11.9	>12.0
Hypotension	MAP <70	Dopamine <=5 or Dobutamine	Dopamine >5 or Levophed <=0.1	Dopamine >15 or Levophed >0.1
GCS	13 to 14	10 to12	13 to 14	>12.0
Creatinine or urine output	1.2–1.9	2.0–3.4	3.5–4.9 or <500	>5.0 or <200

[a] *PaO2/FIO2 ratio was used preferentially. If not available, the SaO2/FIO2 ratio was used.*
[b] *Vasoactive medications administered for at least one hr (dopamine and norephinephrine).*

Quick SOFA score or (qSOFA) is exactly what it sounds like. It is a quick sepsis assessment that the provider can perform at the bedside without the need to wait on any laboratory test results. It consists of the following.

- Does the patient have new or worsened altered mental status?
- Respirations greater than or equal to 22.
- Systolic BP less than or equal to 100.

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To demonstrate the qSOFA variables and how they relate to the sepsis criteria consider the following scenario:

A patient presents to the emergency room with a respiratory rate of 24 and a BP of 90/50. The family states that the patient has been confused, and, during the exam, the patient is noted to be only oriented to person. While awaiting results from the labs, this patient will be ruled in as a possible sepsis case based on meeting two or more of the qSOFA criteria.

Once this is suspected, the patient is taken through the SOFA algorithm that looks at additional variables including the following:

- The partial pressure of oxygen/fraction of inhaled oxygen (pao2/FIO2 ratio)
- Platelet count
- GCS
- Bilirubin
- Level of hypotension including need for vasopressors
- Creatinine value with urine output.

If two or more of the above-listed variables are met, the patient is ruled in for sepsis according to the SOFA criteria. Some sepsis cases will end at this stage while those that do not respond to adequate hydration and vasopressors with elevated serum lactate level (>2mmol/L) will meet criterion for septic shock.

It is important to understand that all patients have dynamic presentations and if criterion rules out sepsis early on admission, the clinical course and conditions must be re-evaluated regularly to ensure sepsis does not develop during patient care.

OPERATIONALIZATION OF CLINICAL CRITERIA IDENTIFYING PATIENTS WITH SEPSIS AND SEPTIC SHOCK

The baseline Sequential [Sepsis-related] Organ Failure Assessment (SOFA) score should be assumed to be zero unless the patient is known to have preexisting (acute or chronic) organ dysfunction before the onset of infection. qSOFA indicates quick SOFA.

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SEPSIS

The old criteria, which are provided below, may be still used by some facilities.

Coding guidelines for sepsis are different than for other clinical topics. Listed below are the basic definitions surrounding sepsis.

Diagnosis	Definition
SIRS	Systemic inflammatory response syndrome (SIRS) is the body's systemic response to infection or noninfectious causes such as trauma, burns, pancreatitis, major surgery, or other insult/injury. It is manifested by two or more of the following criteria that cannot be explained by another phenomenon: • Fever > 100.4 or < 96.8 • WBC > 12,000 or < 4,000 or bands > 10% • Tachycardia > 90 • Tachypnea rapid rate (RR) > 20 • Other possible signs of SIRS or sepsis: Lactate > 2.0 (> 4.0 usually indicates septic shock), elevated CRP, elevated procalcitonin levels
Sepsis	SIRS due to an infection. Sepsis is a systemic infection that can be caused by a localized infection or by an infection in the bloodstream.
Severe Sepsis	Sepsis with end-organ dysfunction, such as: • Acute renal failure • Acute respiratory failure • Encephalopathy • Acute liver failure or shock liver • Severe coagulopathy • Paralytic ileus • Critical illness myopathy or polyneuropathy
Septic Shock	Sepsis with refractory hypotension that poorly responds to aggressive fluid resuscitation and may necessitate vasopressor and ICU treatment. Circulatory failure associated with severe sepsis. *(Does not require vasopressor therapy, though this is often treatment after IV fluid fails to improve BP.)*

Mayo Clinic, 2015

ICD-10 CODING GUIDELINES FOR SEPSIS

ICD-10
How many codes?
The coding of sepsis only requires one code. If the type of infection or causal organism is not further specified, assign code A41.9—sepsis, unspecified organism. If the type of localized infection is specified, another code is needed. • Sepsis (A41.9) • Sepsis 2/2 to PNA (A41.9, J18.9) • Severe sepsis 2/2 to PNA (A41.9, R65.20, J18.9) • Septic shock 2/2 to PNA (A41.9, R65.21, J18.9)
Sepsis = one code **Severe Sepsis = two codes + acute organ dysfunction** **Septic Shock = two codes + acute organ dysfunction**

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ICD-10
Severe Sepsis **ICD-10**
In the case of sepsis with end-organ dysfunction, the provider must document the connection between the end-organ dysfunction with the sepsis: • "Sepsis with AKI" • "Severe sepsis with acute respiratory failure" • "Shock liver likely due to sepsis" An acute organ dysfunction must be associated with the sepsis in order to assign the severe sepsis code.
Sequencing **ICD-10**
If sepsis or severe sepsis is present on admission and meets the definition of principal diagnosis, then the sepsis is sequenced as principal diagnosis (A41.--)
Urosepsis **ICD-10**
Urosepsis has no code in ICD-10. When coders come across this documentation they will have no choice but to query and hold the chart/bill.
SIRS **ICD-10**
Documentation of "SIRS 2/2 to [infection]" (like pneumonia, UTI, etc.) will no longer take us to the sepsis MS-DRG. This is confusing because this is a change from ICD-9. Again, "SIRS due to pneumonia" will take us to the pneumonia MS-DRG—**not** the sepsis MS-DRG. Assign only the localized infection code. When sepsis is not present, no other code is required. The ICD-10-CM does not provide a separate code or index entry for SIRS due to an in¬fectious process. If the health record documentation appears to meet the criteria for sepsis, the provider should be queried for clarification.

Negative blood cultures do not preclude a diagnosis of sepsis. This means cultures can be negative, but physicians can still render their professional and clinical opinions regarding whether a patient has sepsis. The provider must simply document "sepsis" and indicate whether it is POA or not.

Get very comfortable with the above definitions. Several query opportunities frequently arise for the CDI specialist when it comes to sepsis.

1. **Presence of localized infection with signs/symptoms of SIRS but no documentation of sepsis:** This is the patient who presents with a severe cellulitis (or any type of localized infection) and has two or more SIRS criteria and is being treated as though he or she has sepsis. In this case, it would be appropriate to query for sepsis 2/2 to _____. Remember: Always determine if the Sepsis is POA or not.

2. **Presence of end-organ dysfunction with no association to the sepsis:** (I-9 organ dysfunction had to be associated with sepsis also for severe sepsis.) You may end up querying frequently for a connection between the end-organ dysfunction and the sepsis.

3. **Presence of septic shock:** Septic shock is often under-documented, particularly when patients only require intense fluid resuscitation and not vasopressor therapy (for example, IV Levophed). If your patient meets criteria for shock (low BP specific to the patient that is unresponsive to aggressive fluid resuscitation) and it is not documented, it is appropriate to query.

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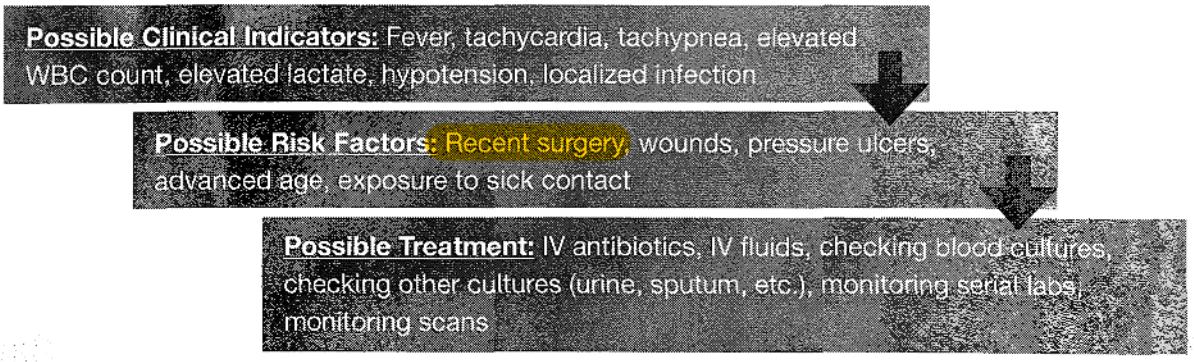
4. **The Actual End-Organ Dysfunction:** As mentioned in previous chapters, you may frequently query for acute respiratory failure, acute renal failure, encephalopathy, shock liver, etc. as these conditions may or may not be well-documented and the associated with the sepsis.


Possible Clinical Indicators: Fever, tachycardia, tachypnea, elevated WBC count, elevated lactate, hypotension, localized infection
Possible Risk Factors: Recent surgery, wounds, pressure ulcers, advanced age, exposure to sick contact
Possible Treatment: IV antibiotics, IV fluids, checking blood cultures, checking other cultures (urine, sputum, etc.), monitoring serial labs, monitoring scans

Big Takeaways for Sepsis

- If your patient has sepsis and it is POA, it will become your principal diagnosis (unless that sepsis is due to a line/device, which is discussed below). If your patient has sepsis, acute respiratory failure, PNA, GI bleed, and a systolic CHF exacerbation, sepsis will likely be your PDX.
- ~~Sepsis is a new core measure for 2016, so it will be more important than ever to ensure it is properly documented.~~
- The trifecta treatment for sepsis ➡ **IV antibiotics, IV fluids, and checking blood cultures.**
- ~~With the FY19 IPPS update, non-infectious SIRS is assigned to MS-DRG 864 (Fever and Inflammatory Conditions).~~

SEPSIS AND MECHANICAL VENTILATION

Let's take a look at the three sepsis MS-DRGs.

- MS-DRG 870: Sepsis with Mechanical Ventilation 96+ hours
- MS-DRG 871: Sepsis without Mechanical Ventilation 96+ hours with MCC
- MS-DRG 872: Sepsis without Mechanical Ventilation 96+ hours without MCC

Notice that sepsis only changes with an MCC (a "doublet") or with mechanical ventilation time > 96 hours regardless of MCC or not. This is a very interesting MS-DRG set. Keep in mind that, even though this MS-DRG only changes relative weight with a MCC or mechanical vent > 96 hours, other diagnoses (CCs), like acute renal failure, can still increase the SOI/ROM.

CODING GUIDELINE ***AHA CODING CLINIC FOR ICD-10* (2ND Q 2014, VOL. 1, NUMBER 2)**

QUESTION: What is the correct ICD-10-CM code for sepsis due to non-Candida Albicans?

ANSWER: Assign code B48.8, Other specified mycoses, for sepsis due to non-Candida Albicans.

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CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (3RD Q 2014, VOL. 1, NUMBER 3)

QUESTION: A 68-year-old male presents to our facility with symptoms of malaise, fatigue and fever. The patient was diagnosed with systemic inflammatory response syndrome (SIRS). However, he did not have sepsis. The provider listed "SIRS secondary to pneumonia," in his diagnostic statement. My particular encoder is directing me to the sepsis code. ICD-10-CM does not seem to have a code for SIRS due to infectious process. **How should we report SIRS due to pneumonia?**

ANSWER: Assign only code J18.9, Pneumonia unspecified organism. When sepsis is not present, no other code is required. The ICD-10-CM does not provide a separate code or index entry for SIRS due to an infectious process. If the health record documentation appears to meet the criteria for sepsis, the provider should be queried for clarification. Encoders are tools that may assist coders; however the codes must be validated and supported by the health record documentation.

LINE SEPSIS

If a line (think Foley, gastrostomy tube, peritoneal catheter, PICC line) caused your patient's sepsis, the documentation must establish this. A coder cannot make any assumptions based on culture or tip growth. If your patient's sepsis is due to a device, implant, or graft, this "complication" becomes the principal diagnosis, followed by sepsis as a secondary/additional diagnosis. This is based on coding guidelines. The MS-DRG will be different depending on where the device, implant or graft is located.

Diagnosis	MS-DRG	MDC
Sepsis secondary to dialysis catheter	314	5 (Cardiac)
Sepsis secondary to orthopedic internal fixation device (femur)	559	8 (Ortho)
Sepsis secondary to indwelling Foley catheter	698	11 (Renal)
Sepsis secondary to breast implant	919	21 (Injuries)

Your job is to ensure that the sepsis is documented, if it is caused by a line that the relationship exists in the documentation, and to query for POA status. If not stated as POA, some of these line infections may inadvertently become HACs (when they are not!).

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CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (1ST Q 2015, VOL. 2, NUMBER 1)

QUESTION: The patient is a 54-year-old female with chronic renal failure, who was transferred from an acute care hospital following removal of an infected AV graft in her left arm. The patient was started on IV Vancomycin and transferred to the long-term care hospital to continue her antibiotic therapy and hemodialysis, which is now being performed via Quinton catheter. Although the infected graft was removed in a previous encounter, the reason for the patient's admission is for continued treatment of the graft infection. What 7th character should be assigned for the infected graft, "initial encounter" or "subsequent encounter"?

ANSWER: Assign code T82.7XXA, Infection and inflammatory reaction due to other cardiac and vascular devices, implants and grafts, initial encounter since the patient is continuing to receive active treatment for the graft infection. The *Official Guidelines for Coding and Reporting*, state "For complication codes, active treatment refers to treatment for the condition described by the code, even though it may be related to an earlier precipitating problem."

SIRS, INFECTION AND SEPSIS: COMPLIANT QUERY EXAMPLE

Clinical Scenario: Patient with documentation of "SIRS" and "UTI"

Can this be further specified?

- Sepsis 2/2 to E. Coli UTI, POA
- Sepsis 2/2 to E. Coli UTI, not POA
- E. Coli UTI only – no sepsis
- Clinically undetermined
- Other, please specify _____

Clinical Indicators: + E. Coli UTI present on admission, temperature 102.4 on admission, RR up to 34 on admission, WBC 18.7, + malaise/fatigue, + diaphoresis

Risk Factors: Frequent UTIs (considering placing a catheter, family will not approve)

Treatment: Blood cultures (pending), IV antibiotics (Azteronam, Amoxicillin), IV fluids @ 125ml/hr, ICU-level of care x 2 days, oxygen up to 4L, re-checking urine culture

Please update your progress notes and discharge summary with the appropriate diagnosis. Thank you!

Name: _____ Date: _____

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MDC 18: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Sepsis chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	CKD, stage 3 Cystitis Electrolyte/Fluid disorder Failure to thrive, adult Hypotension	Neutropenia Oliguria/Anuria Pressure ulcer, upper/lower back, hip, buttock Shingles/Herpes zoster
Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/Alkalosis Acute kidney injury/acute renal failure Anemia, acute blood loss (ABLA) Bacteremia BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity) C. difficile enteritis Cachexia/Emaciated Cellulitis/abscess CHF or heart failure, systolic/diastolic/combined chronic Left heart failure Cholangitis Cholecystitis, acute CKD, stages 4 and 5	COPD, acute exacerbation Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Gangrene Malnutrition, protein-calorie (mild, moderate, unspecified) Pyogenic arthritis Respiratory failure, chronic SBO Shock, postoperative, unspecified Shock, unspecified SIRS, noninfectious without acute organ dysfunction UTI/Pyelonephritis HIV disease/AIDS
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Abscess, liver, lung, mediastinum Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) Cerebral edema CHF, systolic/diastolic/combined, acute or exacerbation Coma Encephalopathy (metabolic, toxic, septic)	ESRD Hepatorenal syndrome Malnutrition, protein-calorie (severe, nutritional marasmus) Necrotizing fasciitis Pancreatitis, acute Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 and 4 (if not POA will code to a HAC) Quadriplegia, functional quadriplegia Respiratory arrest Sepsis, severe sepsis, septic shock (as SDX) Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction

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MDC 18 CASE STUDIES

CASE STUDY 1

66 y/o unfortunate male presents from a nursing home. History includes ESRD, DM, COPD, and frequent illnesses. He has had purulent sputum with increased SOB x 3 days. CXR shows pneumonia and he is started on IV abx. VS are temp 103.1, RR 30, HR 104, BP 108/92, 84% on his normal 2L of O2, and WBC count 17.4. The following is included in the Assessment portion of his H&P:

PROBLEMS:

1) PNA. Started Rocephin and Azithromycin in ER. Able to get sputum cx – will alter abx if need be when those get back. Checked blood cultures too.
2) Leukocytosis and tachycardia.
3) COPD Exacerbation likely – start IV Solumedrol.
4) Slight hypotension but corrected after about 2L. Continue to monitor.
5) Hypoxia. Patient dependent on O2 at nursing home, I believe 2L but his daughter says he turns it up sometimes. Was on NRB in ER, now still on 6L. Start breathing treatments as well. Status tenuous. I've got him in the ICU for at least today. Pulm consult ordered.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

82 y/o female presents to the ER with clear Sepsis. However, she refuses admission at this time, and receives 2 doses of IV antibiotics and leaves AMA. The next day she reappears to the ER in much worse condition. VS are temp 102.2, HR 132, RR 24, SpO2 91% on room air, and BP 78/42. Labs reveal a WBC count of 15.1, BUN 36, Creatinine 2.4, and GFR 28. She is slightly grey. The following is documented in her H&P:

PROBLEMS:

1) 82 y/o sick lady who left AMA from the hospital yesterday. Clearly Septic, POA. Right now her 5th liter of NS is running in – PICC team paged to place line (difficult stick from previous admissions per patient).
2) Hypotensive. BP 70s/40s on admit, did dip to the 60s with severe dizziness, has improved back to 70/40s. In ICU with frequent BP checks, will place art line if need be (hold off for now).
3) Dehydration, Acute Renal Insufficiency. Do not believe she has a CKD but unsure – getting PCP records faxed. May correct with fluid, if not will get Renal consult.
4) Syncope.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 3

65 y/o female with history of frequent UTIs presents to her PCP office for "not feeling well." UA reveals massive infection and she is sent to the ER. On admit her VS show a clear Sepsis and she is started on the Sepsis protocol. Her H&P reads:

PROBLEMS:

1) Sepsis 2/2 to UTI POA. Foley changed out by nursing. Frequent UTIs – waiting on cultures, went ahead and started on Aztreonam.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 19: MENTAL DISEASES AND DISORDERS

MDC 20: ALCOHOL/DRUG USE AND ALCOHOL/DRUG-INDUCED ORGANIC MENTAL DISORDERS

COMBINING THESE MDCS

- There are a total of 13 MS-DRGs in MDCs 19 and 20, and only one is affected by an MCC.
- Patients with mental health disorders, addiction or abuse disorders often experience toxic effects of medications and poisonings.
-

Ensure that diagnoses that fall into these MDCs meet criteria for inpatient admissions. These patients are sometimes admitted for a medical condition and once resolved are admitted to Behavioral Health Services for treatment of underlying mental health disorders. These charts may require "split" billing, and the mental health PDX will be different than the medical admission PDX.

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MDC 19: MENTAL DISEASES AND DISORDERS

COMMON DIAGNOSES FOUND IN THIS CATEGORY AND RELATED MS-DRGs

Common Diagnoses	MS-DRGs
Hallucinations, conversion disorders, suicidal ideation	880
Depressive disorder NEC, MDD single episode unspecified	881 / 885
Psychogenic disorders	882
Obsessive-compulsive personality disorder, anorexia nervosa	883
Dementias, Down's syndrome, autistic disorders	884
Schizophrenic disorders, delusional disorders, psychosis disorders	885
Pica in childhood, developmental disorders, attention/concentration deficit	886
Gender-identity disorders, bulimia nervosa, other eating disorders, sleep disturbances	887

DEPRESSION

Possible Clinical Indicators: Difficulty concentrating, loss of intrest in daily activities, withdrawn, fatigue, decreased energy, feelings of hopelessness, sadness, suicidal ideation, overeating, loss of appetite

Possible Risk Factors: Family history of depression, alcohol/drug abuse issues, certain personality traits (low self-esteem), traumatic events, abrupt discontinuance of some medications, chronic illness

Possible Treatment: Medications, pschotherapy, specialized treatment for the particular type of depression, family therapy, cognitive behavioral therapy

It is important to determine the **type** of depression (major, recurrent, post-partum, situational, and psychotic) and the acuity. This is necessary to ensure the diagnosis is coded to the correct MS-DRG and placed in the correct MDC. This is also important in identifying secondary diagnoses. See the chart below.

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ICD-10: DEPRESSION AND OTHER MENTAL DISORDERS

Diagnoses	ICD-10 Codes	CC or MCC?
Depression, unspecified	F32.9	-
Major depressive disorder, unspecified	F32.9	-
Major depressive disorder, recurrent	F33.9	CC
Major depressive disorder, single episode (specified as mild, moderate, or severe) with or w/out psychotic features	F32.-	F32.0-F32.3 CC
Post-partum depression (puerperal psychosis)	F53	-
Bipolar disorder, unspecified	F31.9	-
Bipolar disorder (type 1), manic—without psychotic features—unspecified, mild, moderate, or severe	F31.1-	All CCs
Bipolar disorder (type 1), manic severe with psychotic features	F31.2	CC
Bipolar disorder (type 1), depressed—without psychotic features—unspecified, mild, moderate, or severe	F31.3- / F31.4	All CCs
Bipolar disorder (type 1), depressed severe with psychotic features	F31.5	CC
Bipolar disorder (type 1), mixed—unspecified, mild, moderate, or severe (with or without psychotic ft)	F31.6-	All CCs
Schizophrenia, unspecified	F20.9	-
Schizophrenia, chronic undifferentiated	F20.5	CC
Paranoid schizophrenia	F20.0	CC

Notice the small language changes above that can establish a CC for your patient's record. "Depression, unspecified" is one of the most common secondary diagnoses you will see. If it is being treated (continuing home medications = treatment), we may need to query for increased specificity.

All other MDD single episodes that are mild, moderate, severe, or recurrent code to MS-DRG 885. You may need to query PDX.

SUICIDE ATTEMPTS AND/OR SUICIDAL IDEATION

You will occasionally review records in which patients have attempted suicide or are contemplating suicide. They are frequently admitted to an inpatient level of care if they are at risk of harming themselves or others.

If a patient is admitted for a suicide attempt due to overdosing (on any medication) this will take us to the poisoning MS-DRG (917–918), which we will discuss in a later chapter. If they are admitted for suicidal ideation, we will be taken to MS-DRG 880. If the underlying reason for suicidal ideation is a type of depression, the MS-DRG assigned is MS-DRG 885.

Review these records as you review all records. Always look for a medical reason for admission, although there often isn't one. Always be on the lookout for CCs and MCCs being documented with highest specificity.

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DEMENTIA

Possible Clinical Indicators: Memory loss, trouble with recall, trouble planning activities, impulse control problems not keeping up with personal grooming, trouble exercising judgement

Possible Risk Factors: Age, family history, Down's syndrome, substance abuse, atherosclerosis, behavioral health disorders, diabetes, vitamin deficiency

Possible Treatment: Treat underling cause if present, medications, therapy, future planning for progrsssion of disease if not reversible cause

As with depression, it is imperative for the cause and type of dementia to be specified in the chart to determine the correct coding track for the diagnosis. This increased specificity also may allow for the CDI specialist to review for a possible CC or MCC that may be present.

ICD-10: DEMENTIA

Diagnoses	Code(s)	CC or MCC?
Vascular dementia with behavioral disturbance	F01.51	CC
Dementia in other diseases classified elsewhere with behavioral disturbances	F02.81	CC
Unspecified dementia with behavioral disturbances	F03.91	CC

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MDC 20: ALCOHOL/DRUG USE AND ALCOHOL/DRUG-INDUCED ORGANIC MENTAL DISORDERS

- Very brief and contains **only four MS-DRGs**. When possible, review your patient's record and attempt to identify a **medical** reason for the admission.
- In this MDC only one MS-DRG is affected by an MCC. This means that CCs will not affect the MS-DRG or increase the relative weight but may impact the SOI/ROM. CDI specialists must be aware of this.
- While reviewing charts watch for CC indicators (liver disease, malnutrition, electrolyte imbalance, encephalopathy).
- Understand that **alcohol/drug use does not constitute abuse** and will likely require clarification through query. Frequency of usage for these in ICD-10 are:
  - Use
  - Abuse
  - Dependence
  - In remission
    - *If both use and abuse are documented, assign only the code for abuse.*
    - *If both abuse and dependence are documented, assign only the code for dependence.*
    - *If use, abuse, and dependence are documented, assign only the code for dependence.*
    - *If both use and dependence are documented, assign only the code for dependence.*
- In ICD-10 we can code a patient's blood alcohol level—a new option that was not available in ICD-9. However, it must be specified somewhere in the physician's documentation. A coder may not code it if the only place it is located is lab values.
- Look for indicators that may indicate withdrawal such as use of CIWA scale, tremors, confusion, agitation, medication administration for symptom control (Ativan, banana bag, Thiamine, Librium).

The Clinical Institute Withdrawal Assessment for Alcohol (CIWA) is a tool to measure the patient's level of withdrawal. Highest score (67) coincides with severe withdrawal. All categories are scored based 0–7 scale except "orientation and clouding of sensorium," which is scored 0–4. Scores less than 10 do not usually require pharmaceutical intervention. The tool evaluates the categories in the table below.

Nausea and vomiting	Tactile disturbances	Orientation and clouding of sensorium
Tremor	Auditory disturbances	Headache, fullness in head
Anxiety	Visual disturbances	Paroxysmal sweats
	Agitation	

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ICD-10: SUBSTANCE DISORDERS

Diagnoses	Code(s)	CC or MCC?
Alcohol abuse with intoxication delirium	F10.121	CC
Alcohol dependence with intoxication with delirium	F10.221	CC
Alcohol abuse with alcohol-induced psychotic disorder with delusions	F10.150	-
Alcohol abuse with alcohol-induced psychotic disorder with hallucinations	F10.151	CC
Alcohol dependence	F10.20	-
Alcohol dependence with withdrawal, uncomplicated	F10.230	CC
Alcohol withdrawal with delirium	F10.231	CC
Most other substances (drugs) follow the same patterns as alcohol although delirium is not always an option with some drugs for withdrawal and CC status may differ. For example, opioid dependence (F11.20) is a CC.		

The rehabilitation therapy non-operating room procedures are found in ICD-10-PCS tables HZ3, HZ4 and HZ5. These procedures include individual counseling, group counseling and individual psychotherapy. See the impact:

MS-DRG	MS-DRG Title	Relative Weight
895	Alcohol, drug abuse or dependence with rehab therapy	1.4328
896	Alcohol, drug abuse or dependence without rehab therapy with MCC	1.7468
897	Alcohol, drug abuse or dependence without rehab therapy without MCC	0.8208

MDC 19 AND 20: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Mental/Alcohol chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)	Alzheimer's disease Anorexia Cirrhosis of liver CKD, stage 3 COPD DM uncontrolled	Electrolyte/Fluid disorder Emphysema Hypercalcemia Hypocalcemia Hyperkalemia	Nutritional deficiency Pressure ulcer, upper/lower back, hip, buttock Thrombocytopenia Vitamin deficiency Vitamin D deficiency

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Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/Alkalosis AKI/acute renal failure Adult or child maltreatment Alcohol dependence with alcohol-induced dementia Alcohol dependence w/ alcoholic chronic brain syndrome Alcohol hallucinosis (acute) Alcohol-induced anxiety Alcohol-use, unspecified w/psychosis Alcoholic withdrawal Delirium, alcohol withdrawal Anemia, acute blood loss Ascites Bacteremia Bipolar disorder (type 1) manic: mild, moderate, or severe Bipolar disorder (type 1) manic with psychotic features Bipolar disorder (type 1) depressed: mild, moderate, or severe Bipolar disorder (type 1) depressed with psychotic features Bleeding, anal/rectal (blood in stool, melena) BMI ≤ 19, BMI> 40 (**w/ linked** dx: underweight, morbid obesity)	C. difficile enteritis Cachexia/emaciated Cardiomyopathy (unspecified, alcoholic) Cellulitis/abscess CHF or heart failure, systolic/diastolic/combined Chronic left heart failure CKD, stages 4 and 5 Coagulopathy COPD, acute exacerbation Dementia: senile, presenile, vascular with delirium or behavioral disturbance dementia with behavioral disturbance depression, major/acute, mild, moderate, recurrent drug dependence (unspecified drug), drug-induced delirium encephalopathy (anoxic/hypoxic, alcoholic, HTN) Esophageal ulcer Gangrene GI bleed Hallucinations Hematemesis/hemoptysis HIV disease/AIDS	Hepatitis C, acute w/out coma Hypo- and hypernatremia Ileus Jaundice/leukemia and lymphoma (malnutrition, protein-calorie: mild, moderate, unspecified) Mental retardation or intellectual disabilities, specified profound or severe Metastatic cancer Obesity hypoventilation syndrome Opioid dependence Pancreatitis, chronic Pancytopenia, unspecified Pleural effusion Portal hypertension Respiratory failure, chronic Schizophrenia, chronic undifferentiated Schizophrenia, paranoid type Senile dementia w/ delirium Shock, unspecified SIRS, noninfectious without acute organ dysfunction Suicidal ideation UTI/pyelonephritis Viral hepatitis
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Cerebral edema CHF, systolic/diastolic/combined, acute or exacerbation Coma Encephalopathy (metabolic, toxic, septic)	Esophageal ulcer with bleeding ESRD Hemorrhagic gastritis Hepatic coma or hepatic encephalopathy (acute/subacute) Hepatorenal syndrome Liver abscess Liver necrosis, acute/subacute Mallory-Weiss tear Malnutrition, protein-calorie (severe, nutritional marasmus)	Pancreatitis – acute Pancytopenia 2/2 to other drug Pneumonia, all (including aspiration pna) Portal vein thrombosis Pressure ulcer stages 3 & 4 (if not POA will code to a HAC) Sepsis, severe sepsis, septic shock (as SDX) Shock, hemorrhagic, hypovolemic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction

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MDC 19 AND 20 CASE STUDIES

CASE STUDY 1

Patient is a 46 y/o male who is brought to the ER by family. He is disheveled and stained with urine and feces, unable to answer questions or to form understandable words. He weighs 124 pounds and is 70 inches tall. Family does report that patient has a history of heavy drinking but is unable to provide any medical history. Patient has negative urine drug screen, no alcohol is detected in his blood. Na: 129, K: 2.9, Alb: 2.4 and total protein: 5.0. Patient has elevated liver enzymes. Head CT is negative and Abd US demonstrates abdominal ascites with fatty liver. On day 2 of admission patient still requires regular Ativan for withdrawal but is more awake, remains confused, Ammonia level is ordered and is noted to be 92. Lactulose is ordered.

PROBLEMS:

1) Per admitting H&P patient is admitted with alcohol withdrawal with DT.
2) On day two of admission MD orders continued IV fluids, Potassium replacements for ↓K, monitor confusion and repeat ammonia level in AM to monitor ↑ammonia level.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

74 y/o patient is admitted with bleeding from rectum. Patient has history of atrial fibrillation and is on long-term Coumadin. Patient admission labs are as follows: WBC: 7.8, H&H: 11.1/34.2, PT/INR: 72/5.2, BUN: 12, Creat: 1.2, V/S are stable. Patient has upper and lower endoscopic procedures and no source of bleeding is found. On first night of hospitalization RN documents large amount of blood noted in bedside commode after patient has BM. Day 2 labs are as follows: WBC: 8.9, H&H: 7.6/27.2, PT/INR: 42/3.4, BUN: 9, Creat: 0.9

PROBLEMS:

1) Patient is admitted with rectal bleeding, history of atrial fib. Patient will have GI consult, will receive FFP and Vit K to deal with hypercoagulation. Will hold Coumadin and monitor.

2) Patient had negative endoscopic procedures, bleeding likely related to Coumadin toxicity. Patient anemic this am will transfuse and if stable discharge home in the morning.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 21: INJURIES, POISONINGS, AND TOXIC EFFECTS OF DRUGS (FREQUENTLY CALLED "THE COMPLICATIONS CHAPTER")

COMPLICATIONS OF TREATMENT

Complications of treatment fall into many MDCs. Here are some hard and fast rules to follow.

- When the admission is for treatment of a complication resulting from surgery, medical care or device, **the complication code is sequenced as the principal diagnosis**.
- Because it will direct the MS-DRG assignment, the POA is very important.
- **There is no time frame or limit of when a complication of treatment can occur**. This may seem odd, but it is true! A great example is a patient who has a kidney transplant in 2012 and then develops graft vs. host disease in 2015. Even though three years have passed, the kidney transplant rejection (ICD-10 ➡ T86.11) would be the principal diagnosis followed by a code for the graft vs. host disease (ICD-10 ➡ D89.813).
- Documentation of the term iatrogenic means "due to medical care." A true complication of treatment is defined as an unexpected or unusual outcome.
- If the complication code is classified to the T80–T88 series (ICD-10) and lacks specificity in describing the complication, an **additional** code for the specific complication should be assigned.

  NOTE: In ICD-10, intraoperative and post-procedural complication codes are found within the body system chapter with codes specific to the organs and structures of that body system. These codes should be sequenced first followed by the code(s) for the specific complication, if applicable. Examples of complication codes that require an additional code for a specific complication include the following.

  – ~~Postoperative pneumonia: Respiratory complication AND pneumonia~~
  – Postoperative ileus: Digestive system complication AND paralytic ileus
  – ~~Postoperative A-fib: Cardiac complication AND A-fib~~

  Best Advice: Follow the path in your coding manual, index and tabular, or Grouper and it will lead you to single or multiple codes as needed.

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- For a condition to be a "surgical complication," it must be documented as **related to the procedure and not be routinely expected or integral to the procedure**. For example, surgeons generally expect an ileus post-bowel surgery for 1 to 3 days; this would not be a complication.

Code assignment is based on the provider's documentation of the relationship between the condition and the care or procedure. The guideline extends to any complications of care, regardless of the chapter the code is located in. It is important to note that not all conditions that occur during or following medical care or surgery are classified as complications. There must be a cause-and-effect relationship documented by the provider between the care provided and the condition. The provider must specifically indicate in the documentation that it is a complication. Query the provider for clarification, if the complication is not clearly documented.

- If the physician is documenting "postoperative" or "status post," a query may be needed for other terms such as:
  - Expected outcome
  - Unexpected outcome
  - Due to
  - Related to or resulting from.

"Status post" merely indicates something happened after X. It does indicate a true "cause and effect" between the procedure/medical care and the outcome.

- ~~Complicated wounds will fall to this MDC if they are described as disrupted, infected, non-healing, delayed treatment or retained foreign body.~~ A wound must be considered **open** in order to fall under the complicated wound category. You may occasionally have to query for the term "open."
- **Remember that a complication is a deviation from the "expected" operative course!** Ask yourself: "Would this condition have happened to this patient **without** the previous surgery or care?" If the answer is "No", you are likely looking at a complication.

Physicians and surgeons tend to get alarmed when something is labeled as a "complication" of care.

To them, it infers poor/bad care or quality of care. Some of these complications are reportable to profiling companies and state health departments and some are not. However, we need accurate documentation to determine if a patient was admitted with a complication and/or if a patient develops a complication as a result of care or a surgical procedure. As a CDS, it is very important to make sure a condition is truly a complication.

WHAT DOES THE CDI SPECIALIST DO?

Query when any of the following are true:

- When the documentation infers a deviation from the expected course of the treatment, care or the operative procedure and/or recovery
- When it looks as though there is a cause-and-effect relationship between the treatment, care or surgery and the condition that developed following a procedure
- When there is an onset or exacerbation of a condition following a procedure or treatment.

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Before you query, ask yourself:

- Was the condition present on admission? Some complications are present on admission and some develop after admission. It is important to determine this, and it is important for the physician to document this.
- Does the patient have a history of the condition? Is this an expected outcome?
- Is the condition a "real" complication that occurred during, or as a result of, a treatment, care or a procedure?
- Did the development of the condition contribute to the complexity of the treatment, care or procedure?

ICD-10 COMPLICATION CODES

Other than the addition of more chapter-specific complication codes, essentially nothing is really "new" from ICD-9-CM. It is still extremely important to accurately identify when complications have happened and if the documentation appropriately supports the condition.

Diagnosis	Document the Following
SURGICAL COMPLICATIONS	Affected body system Specific condition Whether the condition is a complication of care and the expected procedural outcome Whether the complication occurred intraoperative or postoperative
MECHANICAL DEVICE COMPLICATIONS	Affected body system Type of device Specific complication • Breakdown • Displacement/dislodgement • Leakage • Infection/Inflammation • Hemorrhage/Hematoma • Pain • Embolism • Fibrosis • Other, specify Episode of care: • Initial encounter • Subsequent encounter • Sequela

If the patient has a traumatic injury and has **two** different trauma diagnoses from two different significant trauma body-site categories, the MS-DRG could move to MDC 24. Below is a list of the significant body-site categories.

Site Category 1—Head	Site Category 5—Urinary
Site Category 2—Chest	Site Category 6—Pelvis/Spine
Site Category 3—Abdomen	Site Category 7—Upper Limb
Site Category 4—Kidney	Site Category 8—Lower Limb

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CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (1ST Q 2015, VOL. 2, NUMBER 1)

QUESTION: The patient *developed an infection after a primary left total hip replacement* and was admitted to the hospital for surgical treatment. At surgery, the prosthesis was removed. An antibiotic impregnated methylmethacrylate cement spacer was inserted to fill the acetabulum. The patient was discharged on day five and placed on IV antibiotics for six weeks.

This same patient was readmitted seven weeks later for removal of the antibiotic spacer and revision of the total left hip replacement with insertion of a new hip prosthesis, because the infection had resolved. What are the appropriate diagnosis code assignments for both inpatient admissions? Would the second admission still be active treatment of the infection (T84.5-), and therefore coded as initial encounter with 7th character "A," or is this routine care during the healing phase and coded as a subsequent encounter?

ANSWER: For the initial admission, assign code T84.52XA, Infection and inflammatory reaction due to internal left hip prosthesis, initial encounter, as the principal diagnosis. Code Z96.642, Presence of left artificial hip joint, is assigned as an additional diagnosis.

For the second admission, assign code Z47.32, Aftercare following explantation of hip joint prosthesis, as the principal diagnosis. Subcategory Z47.3 includes encounters for joint prosthesis insertion following prior explantation. Code Z47.32 is used to report patient encounters for joint prosthesis insertion following a prior explantation of the prosthesis, where it was necessary to stage the procedure. There may have been a medical need to remove an existing joint prosthesis (e.g., due to infection or other problem), but it was not possible to replace the prosthesis during the initial episode of care. Code T84.52X- is not appropriate for the second admission since the infected joint prosthesis had been previously removed.

POISONINGS/ADVERSE REACTIONS

It is imperative for CDI specialists to understand the difference between poisoning versus an adverse reaction. A **poisoning** occurs when a prescribed medication is taken **incorrectly** (wrong dose, wrong person, wrong route), or a correctly prescribed medication is taken in combination with alcohol, over-the counter medication, or illicit drugs. In these cases the poisoning is the principal diagnosis. A great example of this is a purposeful overdose.

On the other hand, an **adverse reaction** is a reaction to the therapeutic substance that is taken **as prescribed**. In the case of adverse reactions the manifestation becomes the PDx. Also included in this category are allergic reactions to prescribed medications, drug toxicities, side effects and synergistic effects.

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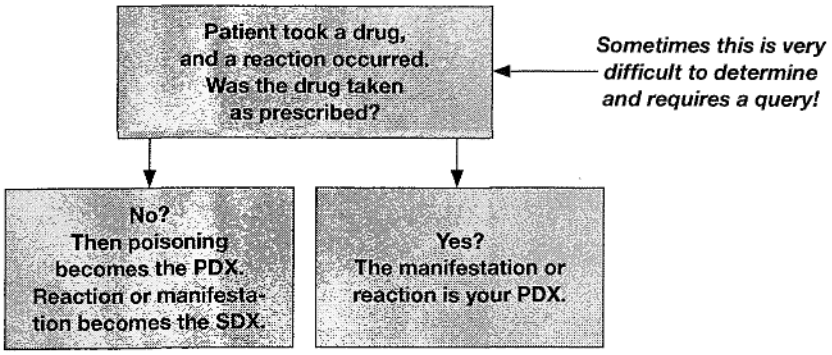
Patient took a drug, and a reaction occurred. Was the drug taken as prescribed?
Sometimes this is very difficult to determine and requires a query!
No? Then poisoning becomes the PDX. Reaction or manifestation becomes the SDX.
Yes? The manifestation or reaction is your PDX.

POISONING EXAMPLES

Patient Presentation	Adverse Effect or Poisoning
Patient was started on morphine after two **regularly scheduled** doses. Patient presents with altered mental status.	**Principal Dx: Altered mental status** Secondary Dx: Opiates/narcotics causing adverse effects in therapeutic use Adverse effect: MS-DRG 948 S&S
Patient was started on morphine and was having issues with pain control. **Took double doses** (not consulting her MD) for five scheduled doses and now presents with AMS.	**Principal Dx: Poisoning by opiate/related narcotic** Secondary Dx: Altered mental status Poisoning: MS-DRG 918 Poisoning and toxic effects
Patient presents with bradycardia and is found to have a supra-therapeutic digoxin level. Denies any changes in medications and takes everything as prescribed.	**Principal Dx: Cardiac dysrhythmia** Secondary Dx: Cardio-tonic glycosides and drugs similar causing adverse effects in therapeutic use Adverse effect: MS-DRG 310 Cardiac Arrhythmia
Patient presents with bradycardia and is found to have a supra-therapeutic digoxin level. When patient and family are questioned, they report that patient has been feeling down and took six Lanoxin pills 10 hours ago.	**Principal Dx: Poisoning by cardiotonic glycosides and drugs similar** Secondary Dx: Cardiac dysrhythmia Poisoning: MS-DRG 918 Poisoning and toxic effects

CODING GUIDELINE

AHA CODING CLINIC FOR ICD-10 (1ST Q 2015, VOL. 2, NUMBER 1)

If an acute respiratory failure is present **because** of a drug overdose, the drug overdose will always be the principal diagnosis and the respiratory failure will be the secondary. This will provide a MCC; however, if the patient ends up being ventilated, we can code the procedure *but it will not change the MS-DRG.*

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ICD-10: COMPLICATIONS, ADVERSE EFFECTS, POISONING

Every drug or category that can be coded will fall under poisoning by, adverse effect of and under-dosing. (See opioids below for example.)		
Diagnosis	**Code(s)**	**CC or MCC?**
Poisoning by other opioids, accidental (unintentional)	T40.2X1-	-
Poisoning by other opioids, intentional (self- harm)	T40.2X2-	-
Poisoning by other opioids, assault	T40.2X3-	-
Poisoning by other opioids, undetermined	T40.2X4-	-
Adverse effects of other opioids	T40.2X5-	-
Under-dosing of other opioids	T40.2X6-	-
Codes for toxic effects have the same basic set-up as poisonings and include accidental, intentional self-harm, assault, undetermined. (See spider venom below.)		
Toxic effects of venom of other spider accidental	T63.391-	-
Toxic effects of venom of other spider intentional (self- harm)	T63.392-	-
Toxic effects of venom of other spider assault	T63.393-	
Toxic effects of venom of other spider undetermined	T63.394-	-
Complication Codes		
Bloodstream infection due to central venous cath (CLABSI)	T80.211A	CC
Rh incompatibility with acute hemolytic transfusion reaction	T80.410A	CC
Disruption of wound, unspecified	T81.30XA	CC
Unspecified complication of foreign body accidently left in body following surgical operation	T81.500A	CC
Infection and inflammatory reaction due to cardiac valve prosthesis	T82.6XXA	CC
Periprosthetic fracture around internal prosthetic right hip joint	T84.050A	CC

MDC 21: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Complications chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

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The Complications chapter is also interesting in that CCs and MCCs can be from multiple chapters. Keep your eyes peeled when reviewing these records for **any** CC/MCC opportunity.

Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acute kidney injury/acute renal failure Air leak from chest tube Anaphylactic reaction Anemia, acute blood loss (ABLA) Anemia, blood loss post-op (post-op ABLA) Anoxic brain injury/damage ARDS Atrial fib s/p surgery (no hx of afib) Atrial flutter Bacteremia BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity) Cachexia/Emaciated Cellulitis/Abscess CHF or heart failure, systolic/diastolic/combined Chronic left heart failure	Complications of prosthetic joint or transplanted organs COPD, acute exacerbation Dementia with behavioral disturbance Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Gangrene GI bleed Hallucinations Heart block, bifasicular/trifasicular Heart block, complete, AV block complete, Hemiplegia/Hemiparesis History of transplant (bone marrow, heart, lung, intestines, kidney, liver, pancreas, peripheral stem cells) Hypo- and hypernatremia Ileus, intestinal obstruction HIV disease/AIDS	Intussusception Malnutrition, protein-calorie: mild, moderate, unspecified Neurogenic bowel Obesity Hypoventilation syndrome Paralytic ileus Paraplegia Pneumothorax post-op hypoinsulinemia (post-pancreatectomy) Respiratory distress, acute Respiratory failure, chronic Shock, postoperative, unspecified Shock, unspecified SIRS, noninfectious without acute organ dysfunction Stoma complications Suicidal ideation Thrush, oral UTI/Pyelonephritis Ventricular tachycardia
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) Cerebral edema CHF, systolic/diastolic/combined, acute or acute on chronic Coma Diabetes, hyperosmolar with or without coma (Determine POA. If it develops during an inpatient stay, consider as HAC.)	Diabetes with coma Diabetes with ketoacidosis (Determine POA. If it develops during an inpatient stay, consider as HAC.) Encephalopathy (metabolic, toxic, septic) ESRD Hepatic encephalopathy (acute/subacute) Hepatorenal syndrome Liver necrosis, acute/subacute Mallory-Weiss tear Malnutrition, protein-calorie: severe, nutritional, marasmus	Myocardial infarction, acute Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 and 4 (If not POA will code to a HAC) Quadriplegia, functional quadriplegia Sepsis, severe sepsis, septic Shock, hemorrhagic, hypovolemic, septic SIRS, noninfectious with acute organ dysfunction Ventricular fibrillation Volvulus

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MDC 21 CASE STUDY

CASE STUDY 1

65 year old female is admitted to the hospital for elective incisional hernia repair of the abdomen. Patient had previous repair to this hernia 3 years ago with the placement of Gore-Tex mesh. She has complaints of abdominal pain at the site of the previous surgery. She is taken to the OR. During the procedure, it is noted that there is displacement of the mesh and inflammation of the surrounding tissue is noted. The previous mesh is removed. The abdominal cavity is irrigated with antibiotic solution and a new mesh is placed and hernia is repaired. Patient tolerated the procedure well. EBL is 200cc. The following information is documented in her H&P:

PROBLEMS:

1) Patient with history of previous hernia repair with mesh placement. Now with complaints of pain at the previous surgical site.
2) History of anemia with current H/H 7.5/ 26.8, will type and cross and transfuse 1 unit.
3) WBC 12.5, temp 99.6. Will start IV antibiotics postoperatively.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 22: BURNS

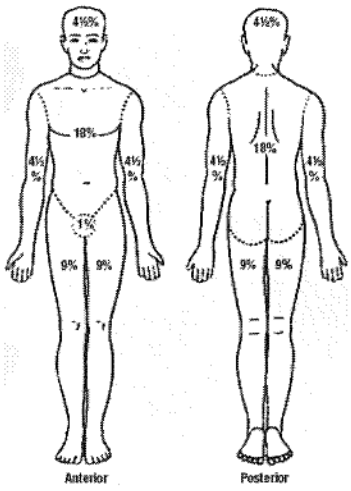
BURNS

Current burns (T20-T25) are classified by depth, extent and by agent. Depth is classified as first-degree (erythema), second-degree (blistering), and third-degree (full-thickness involvement) per the *Official Guidelines for Coding and Reporting*.

CODING OF BURNS

- When more than one burn is present, sequence the code that reflects the highest degree of burn as the principal diagnosis. Burn, unspecified, is extremely vague and should rarely be used.
- Non-healing burns are coded as acute burns.
- For any documented infected burn site, use an additional code for the infection.
- When coding burns, assign separate codes for each burn site. "Burns of multiple specified sites" should only be used if the locations of the burns are not documented.
- If the admission is for the **respiratory/inhalation** problem that occurred during a fire—and NOT the burn—the respiratory problem will be your principal diagnosis.
- Encounters for the treatment of the late effects of burns (scars, joint contractures, etc.) should be coded to the residual condition (sequelae) followed by the appropriate late effect diagnosis such as burn with seventh character for sequela.
- The classic '**Rule of Nines**" is used to estimate the percentage of body surface involved:
  - Head and neck are assigned --------- 9%
  - Each arm is assigned ----------9%
  - Each leg is assigned ----------18%
  - Anterior trunk is assigned ----------18%
  - Posterior trunk is assigned ----------18%
  - Genitalia is assigned ----------1%

RULE OF NINES



1st Degree	Epidermis, superficial partial thickness, dry, no blisters
2nd Degree	Dermis, superficial to deep partial, moist, blister, white to red painful
3rd Degree	Subcutaneous, fat, muscle, bone, full thickness, not painful, pale yellow, carbon black/leathery, life threatening

Sources: *Brunner & Suddarth's Textbook of Medical-Surgical Nursing*, 10th ed., 2004 and *http://hospitals.unm.edu/burn/classification.shtml*.

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DO I NEED TO QUERY?

If documentation does not specify the degree of the burn, percentage of body area involved or the burn site, QUERY for clarification.

DID YOUR PATIENT HAVE A DEBRIDEMENT?

Many burn patients have some type of debridement. Read your procedure and/or operative notes carefully. Was this an excisional debridement? If it was, is this well-documented?

MDC 22: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the Burns chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/alkalosis Acute kidney injury/acute renal failure Adult or child maltreatment (unspecified, neglect, physical or sexual abuse) Air leak from chest tube Anemia, acute blood loss (ABLA) Anemia, blood loss post-op (post-op ABLA) Anoxic brain injury/damage ARDS Ascites Atelectasis (pulmonary collapse) Atrial flutter Bacteremia Bleeding, anal/rectal (blood in stool: melena) BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity) Cachexia/Emaciated Cellulitis/Abscess CHF or heart failure, systolic/diastolic/combined chronic CKD, stage 4 and 5 Compartment syndrome (nontraumatic) Dementia with behavioral disturbance	Depression, major/acute, mild, moderate, recurrent Drug-induced delirium Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Gangrene Hallucinations Heart block, bifasicular/trifasicular Heart block, complete, AV block complete Hemiplegia/Hemiparesis Hypo- and hypernatremia HIV disease/AIDS Malnutrition, protein-calorie (mild, moderate, unspecified) Paraplegia Respiratory distress, acute Respiratory failure, chronic Respiratory insufficiency, acute Rhabdomyolysis Shock, postoperative, unspecified Shock, unspecified SIRS, noninfectious without acute organ dysfunction Suicidal ideation

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Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure Acute respiratory failure 2/2 to surgery (unexpected = reportable as complication) ARDS Brain death Candidiasis of lung Candidiasis, disseminated Cerebral edema Cerebral hemorrhage CHF, systolic/diastolic/combined, acute or acute on chronic Coma Encephalopathy (metabolic, toxic, septic) ESRD	Hepatic coma or hepatic encephalopathy (acute/subacute) Hepatorenal syndrome Liver necrosis, acute/subacute Malnutrition, protein-calorie (severe, nutritional marasmus) Myocardial infarction, acute Necrotizing fasciitis Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 and 4 (if not POA will code to a HAC) Quadriplegia, functional quadriplegia Respiratory arrest Sepsis, severe sepsis, septic shock Shock, cardiogenic, hemorrhagic, hypovolemic, neurologic, septic, traumatic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction

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MDC 22 CASE STUDY

CASE STUDY 1

34-year-old female involved in a house fire presents to the ER. She sustained 3rd degree burns that were full thickness to the upper half of her chest and back and the anterior area of both the upper arms. She also sustained partial thickness burns to her face, neck and hands. Her lungs are clear with a productive cough and black tinged sputum. A Foley catheter is placed and is draining pink-tinged urine. IV NS infusing at 75ml/hr. Current vital signs: BP 92/40, pulse 101, respirations 30 with O2 via NRB at 15L, temp 102.8. Lab: WBC 18.9, H/H 7.0/21.5. She is admitted to the burn ICU for treatment and taken for debridement. After surgery patient's respiratory status declines and patient requires intubation and mechanical ventilation + black sputum coming from ET tube. Documentation reads as follows:

Progress Note:

PROBLEMS:

1) 3rd degree burns to approximately 40% of her body. Patient is admitted to the burn unit and sterile water soaked gauze is applied to the affected areas s/p debridement. POD#1 from debridement.
2) Respiratory distress – intubated prior to surgery, remains intubated. Likely will be on the vent for a while.
3) IV Morphine started with initial dose of 2 mg and 5mg every 10 minutes for the first hour.
4) IV Vancomycin 1gm.
5) Type and cross, transfuse 2 units PRBC'S.

Op Note:

PREOPERATIVE DIAGNOSES: Severe burns.

POSTOEPRATIVE DIAGNOSES: SAME

OPERATION: Sharp debridement

In the OR, patient is prepped for surgery. Severe necrotic tissue to the upper front torso of the chest noted in multiple areas. Wound area for debridement is approximately 10x14cm. Utilizing a #14 blade, an elliptical incision is made. Necrotic tissue is cut away and debrided down to the muscle revealing viable bleeding tissue. The wound is irrigated with Gentamycin solution. EBL 100 cc. Patient tolerated procedure well without complications. She is severely ill.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 24: MULTIPLE SIGNIFICANT TRAUMA

The physician does not have to document "multiple significant trauma (MST)." When a patient sustains two or more significant traumatic injuries, we code each injury and the Grouper "tells us" whether we have a MS-DRG for MST. It is a MS-DRG based on the presence of multiple injuries. You do not query for multiple injuries or multiple significant trauma.

There are two ways of coding injuries that will take you to the MS-DRG:

1. A principal diagnosis from the trauma diagnosis list (*ICD-10-CM/PCS MS-DRG V35 Definitions Manual*) PLUS a second diagnosis from one of the body-site categories.
2. A principal diagnosis from one of the body-site categories PLUS a second diagnosis from a different body-site category

There must be a principal diagnosis of trauma or injury from at least two different body site categories:

- Category 1—Head
- Category 2—Chest
- Category 3—Abdomen
- Category 4—Kidney
- Category 5 —Urinary
- Category 6 —Pelvis and spine
- Category 7 —Upper limb
- Category 8 —Lower limb

Coding rules require us to code the most severe injury as the PDX

The second injury needed to get to MST will not also double as a CC or MCC. You need to get another CC or MCC to move to the higher-weighted MS-DRG. There are three MS-DRGs for MST:

MS-DRG 963: Other Multiple Significant Trauma with MCC

MS-DRG 964: Other Multiple Significant Trauma with CC

MS-DRG 965: Other Multiple Significant Trauma without CC/MCC

Not all injuries have to be POA to code to one of the above. For example, a patient admitted with an open fracture of the humerus is post-op day 2. He is ambulating to the restroom and falls, resulting in a fracture of the femur. This is MST!

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THINGS TO CONSIDER AS YOU ARE REVIEWING

Do any other injuries exist that are not well-documented (or not documented at all)? Some of the injuries below are frequently only documented by a radiologist in CT/MRI findings:

- Laceration or rupture of diaphragm, liver, spleen, liver or kidneys
- Contusions of the heart and/or lung
- Traumatic pneumothorax
- Fractures of the pelvis, skull or ribs
- Seven or more **closed** rib fractures count as a body-site category and four or more **open** rib fractures count as a body-site category.
- Urethral trauma
- Look for prolonged loss of consciousness (LOC) > 24 hours—may be a MCC depending on the situation: Is your patient in a coma?

Remember: If a diagnosis is only documented in a CT, XR, or MRI, a coder cannot code that diagnosis. The provider must document it in the record.

MDC 24: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the MST chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acute kidney injury/acute renal failure Adult or child maltreatment (unspecified, neglect, physical or sexual abuse) Air leak from chest tube Anemia, acute blood loss (ABLA) Anoxic brain injury/damage Atelectasis (pulmonary collapse) Bacteremia BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity) C. difficile enteritis Cachexia/Emaciated Cardiomyopathy (unspecified, alcoholic) Cellulitis/abscess CHF or heart failure, systolic/diastolic/combined chronic CKD, stages 4 and 5 Compartment syndrome (nontraumatic) Dementia with behavioral disturbance Drug-induced delirium Encephalopathy (anoxic/hypoxic, HTN, other, unspecified)	Fracture, malunion (subsequent encounter Hematemesis/Hemoptysis Hemiplegia/Hemiparesis Hypo- and hypernatremia Ileus Malnutrition, protein-calorie (mild, moderate, unspecified) Obesity hypoventilation syndrome Paraplegia Pneumothorax Respiratory distress, acute Respiratory failure, chronic Rhabdomyolysis SBO Shock, unspecified SIRS, noninfectious without acute organ dysfunction Suicidal ideation UTI/Pyelonephritis

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Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC.	Acute edema of lung Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure ARDS Brain death Cerebral edema Cerebral hemorrhage CHF, systolic/diastolic/combined, acute or acute on chronic Coma Encephalopathy (metabolic, toxic, septic)	ESRD Flail chest Hepatorenal syndrome Malnutrition, protein-calorie (severe, nutritional marasmus) Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 and 4 (if not POA will code to a HAC) Quadriplegia, functional quadriplegia Sepsis, severe sepsis, septic shock (as SDX) Shock, traumatic, hemorrhagic, hypovolemic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction

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MDC 24 CASE STUDY

CASE STUDY 1

35-year-old male arrives to the Trauma ER via Mercy Flight. He was involved in a MVA prior to arrival. Preliminary imaging results shows that he has complex thoracic trauma involving multiple rib fractures, flail chest, hemopneumothorax, lung contusions and ruptured spleen. All the thoracic lesions are situated on the left side with prominent seat belt indentations. The patient has hypoxemia with worsening respiratory distress and significant pain. Current vital signs are BP 85/52, RR 35, HR 110 and temp 99.7. WBC 18.9 and H/H is 5.4/16.3. Respiratory status continues to worsen and warrants intubation. Patient is emergently taken to the trauma OR for repair of the ruptured spleen. Postoperatively, patient is taken to Trauma ICU and remains on mechanical ventilation.

PROBLEMS:

1) 35-year-old male involved in a MVA this morning. Arrives to ER with serious injuries including multiple rib fractures, lung contusion and ruptured spleen. Postop condition stable after repair of ruptured spleen and placement of 2 chest tubes.
2) Hypotension due to blood loss anemia, and will transfuse with blood products and bolus with IVF as necessary
3) Respiratory distress requiring intubation. Patient remains on mechanical ventilation. Will attempt weaning postoperative day 2.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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MDC 25: HIV INFECTIONS

HIV AND AIDS

AIDS is caused by HIV (human immunodeficiency virus), all types, with destruction of CD4+ T-lymphocytes that help mediate the body's immune response to infection. For adults, adolescents and children > 18 months of age, the CDC defines AIDS as an HIV-positive patient with any one of the following:

- Current or prior diagnosis of an AIDS-defining condition, or
- Current or prior CD4+ T-lymphocyte count < 200" *(Pinson, CDI Pocket Guide, 2016)*

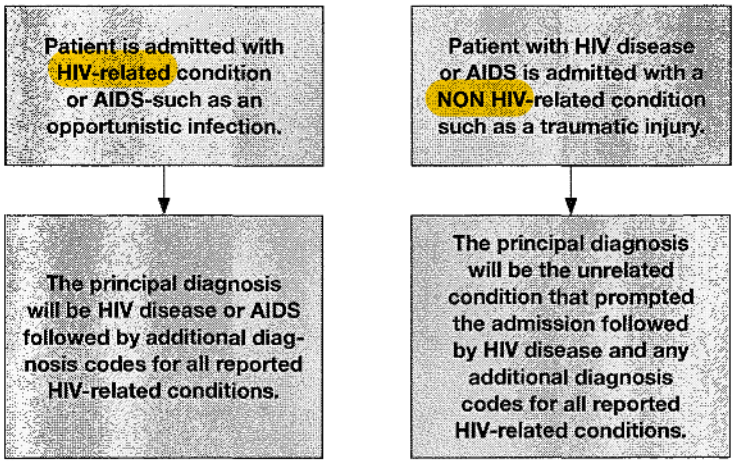
Common AIDS-related conditions are pneumocystis pneumonia, lymphomas, systemic candidiasis, unusual bacterial and fungal infections, and wasting syndrome.

HOW, AND WHEN, TO CODE HIV/AIDS

- **AIDS:** B20 (Once B20 is coded on an encounter, it will be coded on every encounter thereafter.)
  - **Includes the terms:** AIDS, HIV illness, HIV disease, AIDS-related complex, HIV infection, symptomatic
- **HIV-positive:** Z21
  - Includes asymptomatic HIV infection status

Only confirmed cases of HIV infection/illness can be coded. In this context, "confirmation" does not require documentation of positive serology of culture for HIV. The provider's diagnostic statement that the patient is HIV positive, or has an HIV-related illness, is sufficient.

WILL HIV DISEASE BE YOUR PRINCIPAL DIAGNOSIS OR SECONDARY DIAGNOSIS?


Patient is admitted with HIV-related condition or AIDS-such as an opportunistic infection.
The principal diagnosis will be HIV disease or AIDS followed by additional diagnosis codes for all reported HIV-related conditions.
Patient with HIV disease or AIDS is admitted with a NON HIV-related condition such as a traumatic injury.
The principal diagnosis will be the unrelated condition that prompted the admission followed by HIV disease and any additional diagnosis codes for all reported HIV-related conditions.

- Whether a patient is newly diagnosed or has had previous admissions for HIV conditions is irrelevant to the sequencing decision.

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- Patients with any known prior diagnosis of an HIV-related illness should be coded to B20. Once a patient has developed an HIV-related illness, the patient should ALWAYS be assigned code B20 on every subsequent admission.
- If a patient has a ~~**CD4 count < 200 EVER**~~ or if they have been diagnosed with an **AIDS–related illness EVER**, the patient has AIDS, not asymptomatic HIV infection status. If HIV is documented throughout this patient's medical record, you will want to issue a query to clarify that the patient has AIDS or symptomatic HIV infection.
- AIDS is a CC when coded as a secondary diagnosis.

If you are questioning whether the admitted condition is an HIV-related condition, always query the provider for clarification to ensure proper principal and secondary diagnosis assignment.

MDC 25: SEVERITY DRIVERS, CCs, AND MCCs

You are not limited to the diagnoses below nor is this a comprehensive list of severity drivers, CCs and MCCs. (There are thousands.) The following are simply common severity drivers, CCs, and MCCs that are frequently found in the HIV/AIDS chapter. Many of these may require a query to get into the documentation and code to the highest specificity available. Notice that often it is as simple as specifying the word "**acute.**" **Always use your critical thinking skills and consider undocumented or nonspecific diagnoses that may need clarification in your patient's record.**

Severity Drivers that are not CCs or MCCs (Each diagnosis has an SOI or ROM score > 1/1.)			
	Alzheimer's disease	Failure to thrive, adult	Pressure ulcer, upper/lower back, hip, buttock
	Anorexia	Hypercalcemia	Shingles/Herpes zoster
	CHF, unspecified	Hypocalcemia	Thrombocytopenia
	Cirrhosis of liver	Hyperkalemia	Vitamin deficiency
	CKD, stage 3	Hypotension	
	Cystitis	Neutropenia	
	Dependence on supp O2	Nutritional deficiency	

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Frequent CCs * **Remember: A CC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as a CC.** **Note:** With the FY19 update, a PDX may not act as it's own CC.	Acidosis/alkalosis Acute kidney injury/acute renal failure Adult or child maltreatment (unspecified, neglect, physical or sexual abuse) Alcohol dependence with alcohol-induced dementia Alcohol dependence with alcoholic chronic brain syndrome Alcoholic withdrawal delirium, alcohol withdrawal Anemia, acute blood loss (ABLA) Anemia, blood loss post-op (post-op ABLA) Ascites Atelectasis (pulmonary collapse) Bacteremia	BMI ≤ 19, BMI > 40 (**with linked** diagnosis: underweight, morbid obesity) Cachexia/Emaciated Candidal enteritis, esophagitis, otitis externa Candidiasis of mouth or urogenital sites Carcinomatosis Cellulitis/abscess CHF or heart failure, systolic/diastolic/combined chronic Left heart failure CKD, stages 4 and 5 COPD, acute exacerbation cystitis, acute Dementia with behavioral disturbance Depression, major/acute, mild, moderate, recurrent	Drug-induced delirium Encephalopathy (anoxic/hypoxic, HTN, other, unspecified) Gangrene Hallucinations Hematemesis/Hemoptysis Hepatitis C, acute without coma HIV disease/AIDS Hypo- and hypernatremia Malnutrition, protein-calorie (mild, moderate, unspecified) Metastatic cancer Respiratory distress, acute Respiratory failure, chronic Shock, unspecified SIRS, noninfectious without acute organ dysfunction Suicidal ideation UTI/pyelonephritis Ventricular tachycardia
Frequent MCCs * **Remember: A MCC is a secondary diagnosis. *If a diagnosis is your principal diagnosis, it cannot be a CC or MCC.* If any of these diagnoses are secondary diagnoses, they will code as an MCC.** **Note:** With the FY19 update, a PDX may not act as it's own MCC. **Secondary Diagnosis = SDX**	Abscess – liver, lung, mediastinum Acute pulmonary edema Acute renal failure with acute tubular necrosis Acute respiratory failure, acute-on-chronic respiratory failure ARDS Brain death Candidiasis of lung Candidiasis, disseminated Cerebral edema CHF, systolic/diastolic/combined, acute or acute on chronic Coma Defibrination syndrome (or DIC)	Encephalopathy (metabolic, toxic, septic) ESRD Hepatorenal syndrome Malnutrition, protein-calorie (severe, nutritional marasmus) Pneumonia, all (including aspiration PNA) Pressure ulcer, stages 3 and 4 (if not POA will code to a HAC) Respiratory arrest Sepsis, severe sepsis, septic shock (as SDX) Shock, hemorrhagic, hypovolemic Shock liver/acute liver failure with or without coma SIRS, noninfectious with acute organ dysfunction	

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MDC 25 CASE STUDIES

CASE STUDY 1

55-year-old male presents to the ER with complaints of non-productive cough and fever. He complains of weakness, loss of appetite with reported weight loss of 15 lbs over the past three months and shortness of breath. CXR demonstrates bilateral lower lobe infiltrates consistent with pneumonia. His current temperature is 100.9, heart rate 78, respirations 24 and blood pressure 112/68. He is started on Vancomycin 1gm, IV and is admitted for further workup and treatment. The following is documented in his H&P:

PROBLEMS:

1. Patient with history of HIV diagnosed 10 years ago.
2. Concern for pneumocystis pneumonia, add IV Clindamycin
3. Dietary consult with BMI 17.5.
4. CD4 count is <200.

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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CASE STUDY 2

42-year-old female is admitted to the ED following an injury sustained when she fell at home today. The patient states she was cleaning her ceiling fans while standing on ladder. She lost her balance while on the ladder and could not stop her fall. She complains of pain on her left hip and leg. There is significant bruising to the area. Hip x-ray confirms left intertrochanteric hip fracture. Orthopedics is consulted. Patient also complains of dyspnea on exertion. CXR shows bilateral pleural effusions and 2+ pitting edema bilateral lower extremities. Will admit for pending hip fracture repair and further treatment.

PROBLEMS:

1) Left intertrochanteric hip fracture pending ORIF by orthopedics
2) Patient with history of HIV compliant with antiviral regimen
3) Patient with history of CHF with EF 45%, give IV Lasix, 20 mg bid and consult cardiology

What is your initial principal diagnosis?	
What are your initial secondary diagnoses?	
What are your initial procedures (if applicable)?	
QUERY OPPORTUNITY?	
How would this clarify the record? (Add first MCC, first CC, increase SOI/ROM, clarify procedure, etc.)	

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HIGH-RISK MS-DRGs TABLE

High-Risk MS-DRGs

Some of these were identified in your MDC education, some were not. We want you to be aware of these as you review. These MS-DRGs have been identified as "high-risk" due to one or more of the following:

- Symptom MS-DRG
- May not meet inpatient criteria
- Highly scrutinized by outside auditors (for example, excisional debridement)

As a CDI specialist, it is your responsibility to do everything you can to make sure the patient's record codes to the best MS-DRG. However, this will not always be possible. Sometimes patients are admitted and do not meet inpatient criteria. Sometimes all we can diagnose is a symptom. Thoroughly review records and ask queries for clarification of symptoms to the best of your ability.

MS-DRGs	MS-DRG Name
069	TIA
102 and 103	Headache with MCC and without MCC
149	Disequilibrium
152 and 153	Otitis Media and URI with MCC and without MCC
192	COPD without CC or MCC
195	Simple Pneumonia without CC or MCC
203	Bronchitis and Asthma without CC/MCC
293	Heart Failure and Shock without CC/MCC
296, 297, 298	Cardiac Arrest, Unexplained with MCC, with CC, and without CC/MCC
311	Angina Pectoris
312	Syncope and Collapse
313	Chest Pain
379	GI Hemorrhage without cc/MCC
392	Esophagitis, Gastroenteritis, and Miscellaneous Digestive Disorders without MCC
551	Medical Back Problems with MCC
552	Medical Back Problems without MCC
594	Skin Ulcer without CC or MCC
603	Cellulitis w/o MCC
639	Diabetes without CC/MCC
640 and 641	Nutritional, Metabolic, Fluid/Elect Disorders with MCC and without MCC
684	Renal Failure without CC/MCC
690	Kidney and Urinary Tract Infections without MCC
695 and 696	Kidney and Urinary Tract Signs and Symptoms with MCC and without MCC
864	Fever
947	Signs and Symptoms with MCC
948	Signs and Symptoms without MCC

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HIERARCHICAL CONDITION CATEGORIES (HCCs)

CMS implemented the HCC model in 2004 as a risk-adjustment model to adjust Medicare payments to healthcare plans for the health-expenditure risk of their enrollees. The ICD-10-CM codes in the HCC list frequently can impact severity of illness or risk of mortality. These conditions are also important to include in your identified diagnosis.

A file of the 2019 ICD-10 Mappings can be found at *https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors-Items/RiskModel2019.html.* The table includes the following columns:

- Diagnosis Codes and Descriptions, includes ICD-10 codes valid in FY2017 and FY2018
- CMS-HCC PACE/ESRD Model Category V21: HCC for Programs of All-inclusive Care for the Elderly (published in payment year 2016)
- CMS-HCC Model Category V22: CMS – HCC for payment year 2017
- CMS-HCC Model Category V23
- RxHCC Model Category V05: A subset of HCC that adjusts for prescription burden of the disease for 2016
- CMS-HCC PACE/ESRD Model for 2019 Payment Year: HCC for Programs of All-inclusive Care for the Elderly (for payment year 2019)
- CMS-HCC Model V22 for 2019 Payment Year
- CMS-HCC Model V23 for 2019 Payment Year
- RxHCC Model for 2019 Payment Year: Subset of HCC that adjusts for prescription burden of disease for payment year 2019.

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LAB VALUE BREAKDOWN

UNDERSTANDING THE SIGNIFICANCE OF LAB VALUES

"The difference between the right word and the almost right word is the difference between lightning and the lightning bug."
–Mark Twain

This is the second time in this training manual we have used this quotation from Mark Twain. (It is also previously used in the Skin chapter regarding excisional debridement). It is as equally important for excisional debridement as it is for lab values.

It is imperative that the CDI specialist understands what does and does not qualify when it comes to documentation and coding of lab values with significance. Notice we said "with significance." The principal and secondary diagnosis coding guidelines apply with all diagnoses and documentation, including lab values. For example, if a patient has a low sodium level of 130—but it causes the patient no symptoms and we do not treat or monitor it, then it likely does not meet the definition of secondary diagnosis and should not be documented or coded. Querying for diagnoses that have no clinical significance is unethical and could be viewed by CMS as fraud or abuse.

However, a diagnosis of hyponatremia deserves to be documented and captured by coding if a similar patient has a low sodium level of 126 with nausea, vomiting, and weakness and is treated with NS and BMP/CMP levels are monitored daily. It is also imperative for CDI specialists to understand that **providers must use their words when documenting lab value significance:**

Not Acceptable	Acceptable
↓ NA, start IVF	Hyponatremia, NA 125, start IVF
K+ 2.6. Replace IV – see orders	Hypokalemia, K 2.6. Replace IV – see orders.
Elevated creatinine to 3.2. Start IVF. Repeat labs in 12 hours.	Acute renal failure. Creatinine up to 3.2. Start IVF. Repeat labs in 12 hours.
Elevated troponins to 5.4. Stat EKG. Nitro. Consult cards.	Likely MI. Troponins up to 5.4. Stat EKG. Nitro. Consult cards.

There are many more examples but the ones above are what you will likely see most often during chart review. The chart below defines normal levels for lab values and possible significance. This is not an all–inclusive list of lab values or significance. Just like when reviewing the record for CC/MCC opportunity, you must use your critical thinking skills to identify the significance of a lab value prior to querying.

Our advice is to also be cautious when querying for lab values. A normal sodium level is 135–146. However, if you query a physician for "hyponatremia" with a level of 134, you may lose your credibility. Again, ask yourself, "Does this possible diagnosis meet the criteria and definition of a principal or secondary diagnosis?"

Lab-value diagnoses can also be your principal diagnosis, though this is not very common.

Although "normal" lab value ranges vary from facility to facility. Be sure to refer to your facility's lab normal range values for the exact ranges but see those below, which are common normal values for adults.

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Test	Normal Values	Indications for Possible Documentation Needs, Causes of Abnormal Lab Values
Complete Blood Count (CBC)		
WBC	5,000–10,000 (5.0–10.0)	**Increased Levels (Leukocytosis):** Infection, trauma, stress, tissue necrosis, inflammation, leukemic neoplasia **Decreased Levels (Leukopenia):** Bone marrow failure, drug toxicity, autoimmune disease, overwhelming infections
RBC	Male: 4.7–6.1 Fem: 4.2–5.4	**Increased Levels:** High altitude, polycythemia vera, COPD, cor pulmonale, pulmonary fibrosis, dehydration or hemoconcentration **Decreased Levels:** Anemia, hemorrhage, advanced cancer, leukemia, antineoplastic chemotherapy, renal failure, overhydration, pregnancy, dietary deficiency
Hemoglobin	Male: 14–18 Fem: 12–15	**Increased Levels:** Severe dehydration, severe diarrhea, COPD, burns, polycythemia vera, hemoconcentration of blood **Decreased Levels:** Anemia, hemorrhage, antineoplastic chemotherapy, renal failure, overhydration, pregnancy, dietary deficiency, malnutrition
Hematocrit	Male: 42–52% Fem: 37–47%	**Increased Levels:** Severe dehydration, severe diarrhea, COPD, burns, polycythemia vera, hemoconcentration of blood **Decreased Levels:** Anemia, hemorrhage, antineoplastic chemotherapy, renal failure, overhydration, pregnancy, dietary deficiency, malnutrition (CC)
Platelets	150,000–400,000	**Increased Levels:** Cancer, polycythemia vera, RA, iron–deficiency anemia **Decreased Levels:** Thrombocytopenia, Lupus, cancer, chemotherapy medications, infection, aplastic anemia (CC)
Neutrophils, Absolute Neutrophils, Bands		Increased levels of these likely indicate a bacterial infection.
Add–Ons to CBC (Anemia Work–Up)		
Iron	Male: 80–180 mcg/dl Female: 60–160 mcg/dl	**Increased Levels:** Hemosiderosis, hemochromatosis, hemolytic anemia, hepatitis, hepatic necrosis, lead toxicity, massive transfusion **Decreased Levels:** Insufficient dietary iron/inadequate absorption, chronic blood loss, pregnancy, iron–deficiency anemia, neoplasm, chronic GI blood loss or hematuria, chronic heavy physiologic or pathologic menstruation
TIBC	250–460 mcg/dl	**Increased Levels:** Oral contraceptives, late pregnancy, polycythemia vera, iron–deficiency anemia **Decreased Levels:** Hypoproteinemia, inflammatory disease, cirrhosis, hemolytic anemia, pernicious anemia, sickle cell anemia
Transferrin	Male: 215–365 mg/dl Female: 250–380 mg/dl	**Increased Levels:** Same as TIBC above **Decreased Levels:** Same as TIBC above
Transferrin Saturation	Male: 20–50% Female: 15–50%	**Increased Levels:** Same as TIBC above **Decreased Levels:** Same as TIBC above
Chest Pain Panel and Cardiac Labs		
Troponin (Cardiac)	Less than .10	Elevated (usually > 2.0) with MI or acute MI (MCC). Elevated 3–4 hours post–injury, can remain elevated 10–14 days post injury. Can also be elevated in CHF and arrhythmias.
CK	30–170	Elevated CK levels can indicate diseases or injury affecting the heart muscle, skeletal muscle, and brain. They are frequently elevated in MI.

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Test	Normal Values	Indications for Possible Documentation Needs, Causes of Abnormal Lab Values
CKMB	<7.0	Elevation could indicate MI.
%CKMB	0–3	Elevation could indicate MI.
Brain Natriuretic Peptide (BNP)	<100 pg/ml	**Increased Levels:** CHF, pulmonary HTN, MI, systemic HTN, cor pulmonale (acute = MCC), heart transplant rejection, ESRD **Higher in healthy women than healthy men and naturally higher in older patients. They can also be deceptively low in obese patients.*
Arterial Blood Gas (ABG)		
Respiratory Acidosis: Low pH, High PaCO2, normal HCO3 ➡ CC **Respiratory Alkalosis:** High pH, Low PaCO2, normal HCO3 ➡ CC **Metabolic Acidosis:** Low pH, normal PaCO2, Low HCO3 ➡ CC **Metabolic Alkalosis:** High pH, normal PaCo2, High HCO3 ➡ CC Acid-Base Balance Disorder ➡ CC		
pH	7.35–7.45	**High:** Alkalosis—can be caused by multiple disease processes **Low:** Acidosis—Can be caused by multiple disease processes
PaCO2	32–48	**High:** Respiratory acidosis, compensation for metabolic acidosis. Could be caused by emphysema/COPD or severe dehydration, vomiting, or diarrhea. **Low:** Respiratory alkalosis, lactic acidosis, renal failure, seen in malnutrition and starvation as well.
PO2	80–100 *(could be >100 if on Oxygen)*	If low, consider that your patient could have some type of respiratory condition or respiratory failure.
HCO3	22–26	**High:** Acidosis **Low:** Alkalosis
Coagulation Profile		
INR	Coagulated: 2–3 NonCoag: < 2	If INR is inappropriately high, may need to specify if anticoagulants were taken as prescribed (manifestation) or not as prescribed (poisoning).
PT	12–14.4	
PTT	25–35	
Comprehensive Metabolic Panel (CMP) **Basic Metabolic Panel (BMP) ➡ CMP without Liver Profile**		
Sodium (NA)	135–146	**Hyponatremia (CC):** Seen in excessive water/oral intake, decreased sodium intake, diarrhea, **Addison's disease (CC)**, SIADH (CC), third–space losses of NA including CHF, ascites **Hypernatremia (CC):** Seen in excessive dietary intake, **Cushing's syndrome (CC)**: hyperaldosteronism, excessive sweating, extensive thermal burns
Potassium (K)	3.5–5.0	**Hypokalemia:** Seen in deficient dietary intake, burns, GI disorders (vomiting, diarrhea), diuretics, Cushing's syndrome (CC) **Hyperkalemia:** Seen in acute or chronic renal failure (CC), hemolysis, blood transfusion, dehydration
Chloride (Cl)	98–107	**Hypochloremia:** Seen in over-hydration, CHF, SIADH (CC), vomiting, chronic gastric suction, Addison's disease (CC), metabolic alkalosis (CC) **Hyperchloremia:** Seen in dehydration, renal tubular acidosis, excessive infusion of NS, Cushing's syndrome (CC), eclampsia
Anion Gap (AGAP)	< 11 = normal	**Increased Levels:** Lactic acidosis (CC), DM ketoacidosis (MCC), alcoholic keotoacidosis (CC), starvation, renal failure, GI losses **Decreased Levels:** Multiple myeloma (CC), chronic vomiting or suction, hyperaldosteronism, hypoproteinemia, lithium toxicity

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Test	Normal Values	Indications for Possible Documentation Needs, Causes of Abnormal Lab Values
Carbon Dioxide (CO2)	21–33	**Increased Levels:** COPD, emphysema, severe diarrhea, starvation, vomiting, metabolic alkalosis (CC), gastric suction **Decreased Levels:** Renal failure, DM ketoacidosis (MCC), acidosis (CC), shock (MCC), starvation
Glucose	70–110 mg/dl	**Hypoglycemia:** Seen in DM, acute stress response, Cushing's syndrome (CC) **Hyperglycemia:** Seen in DM, insulin overdose, starvation, liver disease
BUN	7–25	**Increased Levels:** Dehydration, hypovolemia, renal failure, shock (MCC), burns, CHF, MI (MCC), GI bleed (MCC), sepsis (MCC) **Decreased Levels:** Liver failure (MCC), over-hydration, SIADH (CC), malnutrition (CC) or malabsorption, pregnancy, nephrotic syndrome
Creatinine	0.5–1.2	**Increased Levels:** Acute renal failure (CC), CKD (stages 4 and 5 = CC), ATN (MCC), UTI (CC), rhabdomyolysis (CC), reduced renal blood flow (shock, dehydration, CHF) **Decreased Levels:** Debilitation, decreased muscle mass (muscular dystrophy, myasthenia gravis, bed-bound) *For patients > or + 50 years of age: The upper reference limit for creatinine is approximately 13 percent higher for people identified as African-Americans.*
GFR **GFR levels also measured differently for African–Americans. These will likely be in your lab findings.*	Stage 1 CKD: >90 Stage 2 CKD: 60–89 Stage 3 CKD: 30–59 Stage 4 CKD: 15–29 Stage 5 CKD: <15 ESRD: <15 & on dialysis	– Frequent severity driver—Stages 2 & 3 CC CC MCC
Osmolality	285–295 mOsm/kg	**Increased Levels:** Hypernatremia (CC), dehydration, mannitol therapy, ingestion of ethanol, diabetes insipidus, ATN (MCC), UTI (CC), ketosis, shock (MCC) **Decreased Levels:** Hyponatremia (CC), over-hydration, SIADH (CC), paraneoplastic syndromes associated with lung carcinomas
Total Protein	6.4–8.3	**Increased Levels:** Dehydration **Decreased Levels:** Malnutrition (CC), pregnancy, liver disease, third-space losses, over-hydration, inflammatory disease, ESRD (MCC)
Albumin	3.4–4.6	**Increased Levels:** Dehydration **Decreased Levels:** Malnutrition (CC), pregnancy, liver disease, third-space losses, over-hydration, inflammatory disease, ESRD (MCC)
Calcium	8.6–10	**Hypocalcemia:** Seen in renal failure, hypoparathyroidism, rickets, vitamin D deficiency, malabsorption, malnutrition (CC), pancreatitis (MCC) **Hypercalcemia:** Seen in hyperparathyroidism, mets to bone, Paget's disease, hyperthyroidism, prolonged immobilization
Bili total	0.3–1.0	**Increased Levels:** Jaundice (CC), gallstones, extrahepatic duct obstruction, extensive liver mets, liver failure (MCC)
AST	0–35	**Increased Levels:** MI (MCC), cardiac cath and cardiac surgery, hepatitis, cirrhosis, hepatic mets or necrosis, multiple trauma, severe/deep burns, pancreatitis (MCC)
ALT	4–36 units	**Increased Levels:** Hepatitis, cirrhosis, hepatic tumor, hepatotoxic drugs, obstructive jaundice, burns, pancreatitis (MCC), history of liver transplant (CC)

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Test	Normal Values	Indications for Possible Documentation Needs, Causes of Abnormal Lab Values
Alk Phos	30–120	**Increased Levels:** Cirrhosis, biliary obstruction, liver neoplasm/tumor, normal pregnancy, mets to bone (CC), hyperparathyroidism, RA **Decreased Levels:** Hypothyroidism, malnutrition (CC), scurvy, pernicious anemia, celiac disease
Lipase	0–160 units/L	**Increased Levels:** Acute pancreatitis (MCC)—most common cause of an elevated serum lipase level), chronic relapsing pancreatitis (CC), pancreatic cancer, pancreatic pseudocyst, acute cholecystitis, cholangitis (CC), renal failure, bowel obstruction (CC), PUD
Amylase	60–120 Somogyl units/dl or 30–220 units/L (SI units)	**Increased Levels:** Acute pancreatitis (MCC), penetrating or perforated peptic ulcer, necrotic bowel, cholecystitis, ectopic pregnancy, pulmonary infarction, DM ketoacidosis, chronic relapsing pancreatitis (CC)
Other Labs, Frequent Add-Ons		
Lactate	0.3–0.8	**Increased Levels:** Shock (CC) (if specified, MCC), septic shock (MCC), tissue ischemia, severe liver disease, DM (non–ketotic) ***Lactate level > 4 is indicative of shock.***
Procalcitonin	≤ 0.15 ng/mL	Elevated Levels can indicate a bacterial infection or sepsis.
Magnesium	1.6–2.2	**Hypomagnesemia:** Seen in malnutrition, malabsorption, hypoparathyroidism, alcoholism, CKD, diabetic acidosis **Hypermagnesemia:** Seen in renal insufficiency, uncontrolled DM, hypothyroidism, ingestion of magnesium-containing antacids or salts
Phosphorous	2.4–4.1	**Hypophosphatemia:** Seen in hypercalcemia, hyperparathyroidism, chronic alcoholism, vitamin D deficiency, malnutrition, sepsis, alkalosis **Hyperphosphatemia:** Seen in renal failure, bone mets, hypocalcemia, liver disease, renal failure, rhabdomyolysis, acidosis, advanced lymphoma
Ammonia	9–45	**Increased Levels:** Hepato disease, severe heart failure, portal hypertension, hepatic encephalopathy and coma (MCC), GI bleed, end–stage liver disease **Decreased Levels:** Essential or malignant HTN
Hgb A1C	Nondiabetic: <5.2 Good/Fair DM Control: 6.9–8.0 Poor Control DM: > 8.0	**Increased Levels:** Newly diagnosed DM patients, poorly controlled or uncontrolled DM (SOI/ROM driver), nondiabetic hyperglycemia (stress, Cushing's, corticosteroid therapy) If HGBA1C > 8.0 and only "diabetes" is documented, consider querying for uncontrolled diabetes. Can often increase SOI/ROM scores.
C–Reactive Protein Test (CRP)	<1.0mg/dl	**Increased Levels:** Tissue infarction or damage, MI or acute MI (MCC), pulmonary infarction/embolism (MCC), sepsis (MCC), arthritis, acute rheumatic fever, Crohn's disease, lupus, kidney or bone marrow transplant rejection, bacterial infection, postoperative wound infection, UTI, malignant disease, bacterial meningitis
Prealbumin	15–36	**Increased Levels:** Nephrotic syndrome, Hodgkin's disease, CKD, pregnancy **Decreased Levels:** Malnutrition, liver damage, burns, salicylate poisoning, inflammation, alcohol abuse
	Warning: Never use a lab value to diagnose malnutrition. Prealbumin levels are an antiquated way to identify malnutrition. The ASPEN criteria and the patient's clinical picture and treatment should be your guide to help identify malnutrition. Albumin, total protein, and prealbumin levels may be identified as a **clinical indicator** in a query but *not as a reason to query.*	

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Test	Normal Values	Indications for Possible Documentation Needs, Causes of Abnormal Lab Values
URINALYSIS AND URINE CULTURE		
Urinalysis	**Appearance:** Clear **Color:** Amber yellow **Odor:** Aromatic pH: 4.6–8.0 (avg 6.0) **Protein:** None or up to 8 mg/dl **Spec Gravity:** 1.005–1.030 **Leukocyte Esterase:** Negative **Nitrites:** Negative **Ketones:** Negative **Crystals:** Negative **Casts:** None present **Glucose:** Negative **WBC:** 0–4 per low-power field **WBC Casts:** Negative **RBCs:** ≤ 2 **RBC Casts:** None	As a CDS, it is your responsibility to review all pertinent lab values. This includes UA, which may be left out of the documentation. **UTI (CC):** The "gold standard" of evaluating a UTI is a positive leukocyte esterase. Other factors that can also indicate a UTI include: **Appearance:** Malodorous, pus, bacteria, RBC, WBCs **Urine-Specific Gravity:** **Increased:** Dehydration **Decreased:** Chronic renal disease **Casts:** **Hyaline:** a few are found in normal urine, especially after strenuous exercise **Granular:** renal disease, nephrotic syndrome, nephrosis, ATN **Waxy:** CKD, DM nephropathy, malignant HTN, glomerulonephritis **Tubular (epithelial):** Glomerulonephritis **WBC:** Acute pyelonephritis
Urine Culture	Normal or Negative = No growth	If your patient's urine grows a particular germ and they are being treated for it, this relationship (cause-and-effect) needs to be documented. It is **not** enough for "UTI" to be in the documentation and "Candidiasis" to be on the culture. ***Candidiasis, Moniliasis, Yeast, Gonococcal, Diplococcal, and Trichomonal UTI will take us to a different MS-DRG if PDX. You may have to query!***

Pagana, K.D., Pagana, T.J. Mosby's Diagnostic and Laboratory Test Reference. Eighth Edition. 2007. Elsevier: St. Louis, Missouri.

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DOCUMENTED LAB VALUES WITH CLINICAL SIGNIFICANCE

There are some lab values that, if documented **appropriately** ("NA 123, hyponatremia, start IV NaCl") are somewhat inherently a CC or MCC. This is likely because these particular lab values are significant enough to make a patient ill or very ill, depending on the circumstances. Consider how much providers depend on lab values to ensure their patients are improving. Some diagnoses are inherently more "lab-based" than others, such as acute renal failure, hyponatremia, etc. Without these lab values to help guide providers, it would be very difficult to monitor improvement.

Again, do not use "just" a lab value to query a physician for a diagnosis. Lab values that are increased or decreased are simply another diagnostic tool we use to help paint a patient's clinical picture.

Here is a short list of established diagnoses that are lab-centered that are a CC or MCC:

- Acid–base balance disorder, mixed (CC)
- Acute kidney injury (CC)
- Acute renal failure (CC)
- Acute renal failure with acute tubular necrosis (MCC)
- Aplastic anemia (CC)
- Hyponatremia (CC)
- Hypernatremia (CC)
- Jaundice (CC)
- Metabolic acidosis (CC)
- Metabolic alkalosis (CC)
- Myocardial infarction (MCC)
- Pancreatitis, acute or subacute (MCC)
- Pancreatitis, chronic (CC)
- Pancytopenia, unspecified (CC)
- Pancytopenia 2/2 to chemotherapy (MCC)
- Pancytopenia 2/2 to other drug (MCC)
- Respiratory acidosis (MCC)
- Respiratory alkalosis (MCC)
- Precipitous drop in hemoglobin and/or hematocrit (CC)

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APPENDIX A: 2019 MS-DRGs, WEIGHTS, MEAN LOS AND ESTIMATED PAYMENTS

The table that begins on the next page lists the FY19 MS-DRG's in comparison with the FY18 MS-DRGs and was designed to help readers analyze their current DRG mix and identify potential opportunities, as well as compare changes to weights, LOS and approximate payments from FY 2018 to FY 2019. The information presented in the table is the most current information available at the time of publication. The table gives the following information for each MS-DRG:

MS-DRG: The MS-DRG is listed, followed by whether the MS-DRG is a Post-Acute DRG or Special Pay DRG, MDC, type and title for each.

Weight: Each MS-DRG has a relative weight assigned which represents the intensity of care associated with each MS-DRG. Generally, the more resources a patient will consume, the higher the relative weight should be. Also, surgical MS-DRGs have a higher relative weight than medical MS-DRGs to account for operating room time.

Mean LOS: Each MS-DRG is assigned a Geometric Mean Length of Stay (GMLOS) and an Arithmetic Mean Length of Stay (AMLOS). Hospitals will often adopt one that they frequently refer to and simply refer to it as Length of Stay (LOS). CMS determines an appropriate LOS for each MS-DRG based on data submitted yearly from across the country, which is analyzed to determine how long "on average" it takes to take care of a patient with X diagnosis. This is the criteria that determines the AMLOS for each MS-DRG. Calculating the GMLOS is more complicated but is calculated to prevent outliers from impacting the average LOS. It is important to monitor a patient's LOS and compare it to the assigned MS-DRG, a LOS that differs greatly from the average may have something missing in the documentation.

Payment: CMS uses a number of factors to determine the base reimbursement for a hospital. The base rate is divided into labor-related and non-labor shares. The non-labor portion is adjusted by wage index for the given geographic location. Cost of living adjustments are applied to the non-labor portion for facilities located in Hawaii and Alaska. A number of factors can be added to the base rate, including:

- Indirect costs for graduate medical education
- Disproportionate number or share of low-income patients
- Wage index, geographical location
- Adjustments for new technology
- Add-on payment

For consistency, a blended base-rate used throughout this guidebook, and in the following table, is $6,000.

In FY 2019 the total of relative weights across all MS-DRGs is 1670.6071, an increase of 34.2037 from FY 2018. The average relative weight for FY 2019 is 2.2011 vs. an average of 2.2084 in FY 2018.

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019								FY 2018					
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
001	No	No	PRE	SURG	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W MCC	26.4106	29.1	37.5	$158,463.60	25.4484	29.0	37.0	$152,690.40	$5,773.20
002	No	No	PRE	SURG	HEART TRANSPLANT OR IMPLANT OF HEART ASSIST SYSTEM W/O MCC	13.4227	15.1	18.0	$80,536.20	15.2462	16.8	20.2	$91,477.20	($10,941.00)
003	Yes	No	PRE	SURG	ECMO OR TRACH W MV >96 HRS OR PDX EXC FACE, MOUTH & NECK W MAJ O.R.	18.2974	23.4	30.1	$109,784.40	17.6245	24.3	30.9	$105,747.00	$4,037.40
004	Yes	No	PRE	SURG	TRACH W MV >96 HRS OR PDX EXC FACE, MOUTH & NECK W/O MAJ O.R.	11.4192	19.5	23.6	$68,515.20	11.0663	19.4	23.8	$66,397.80	$2,117.40
005	No	No	PRE	SURG	LIVER TRANSPLANT W MCC OR INTESTINAL TRANSPLANT	10.2545	14.6	20.0	$61,527.00	10.4390	15.3	20.7	$62,634.00	($1,107.00)
006	No	No	PRE	SURG	LIVER TRANSPLANT W/O MCC	4.8655	7.9	8.6	$29,193.00	4.5018	7.8	8.5	$27,010.80	$2,182.20
007	No	No	PRE	SURG	LUNG TRANSPLANT	10.6510	16.7	20.2	$63,906.00	9.7921	16.0	18.7	$58,752.60	$5,153.40
008	No	No	PRE	SURG	SIMULTANEOUS PANCREAS/KIDNEY TRANSPLANT	5.2490	8.9	10.1	$31,494.00	5.0620	9.2	10.7	$30,372.00	$1,122.00
010	No	No	PRE	SURG	PANCREAS TRANSPLANT	4.5139	7.8	8.5	$27,083.40	4.3722	8.1	9.0	$26,233.20	$850.20
011	No	No	PRE	SURG	TRACHEOSTOMY FOR FACE, MOUTH & NECK DIAGNOSES OR LARYNGECTOMY W MCC	4.9124	10.9	13.4	$29,474.40	4.9191	10.9	13.5	$29,514.60	($40.20)
012	No	No	PRE	SURG	TRACHEOSTOMY FOR FACE, MOUTH & NECK DIAGNOSES OR LARYNGECTOMY W CC	3.8137	8.7	9.8	$22,882.20	3.5236	8.5	9.7	$21,141.60	$1,740.60
013	No	No	PRE	SURG	TRACHEOSTOMY FOR FACE, MOUTH & NECK DIAGNOSES OR LARYNGECTOMY W/O CC/MCC	2.3265	5.9	6.7	$13,959.00	2.4088	6.0	6.8	$14,452.80	($493.80)
014	No	No	PRE	SURG	ALLOGENEIC BONE MARROW TRANSPLANT	11.9503	24.1	27.4	$71,701.80	11.6353	23.9	27.4	$69,811.80	$1,890.00
016	No	No	PRE	SURG	AUTOLOGOUS BONE MARROW TRANSPLANT W CC/MCC OR T-CELL IMMUNOTHERAPY	6.5394	17.1	18.4	$39,236.40	6.4441	17.4	18.8	$38,664.60	$571.80
017	No	No	PRE	SURG	AUTOLOGOUS BONE MARROW TRANSPLANT W/O CC/MCC	4.3811	7.9	10.7	$26,286.60	4.5280	9.6	12.5	$27,168.00	($881.40)
020	No	No	01	SURG	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W MCC	10.4253	13.6	16.5	$62,551.80	9.9991	13.5	16.7	$59,994.60	$2,557.20
021	No	No	01	SURG	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W CC	7.9056	12.1	13.7	$47,433.60	7.5363	11.9	13.4	$45,217.80	$2,215.80
022	No	No	01	SURG	INTRACRANIAL VASCULAR PROCEDURES W PDX HEMORRHAGE W/O CC/MCC	5.1575	6.3	8.1	$30,945.00	5.7171	7.0	8.6	$34,302.60	($3,357.60)
023	Yes	Yes	01	SURG	CRANIOTOMY W MAJOR DEVICE IMPLANT OR ACUTE COMPLEX CNS PDX W MCC OR CHEMOTHERAPY IMPLANT OR EPILEPSY W NEUROSTIMULATOR	5.4601	7.3	10.2	$32,760.60	5.4949	7.6	10.6	$32,969.40	($208.80)
024	Yes	Yes	01	SURG	CRANIO W MAJOR DEV IMPL/ACUTE COMPLEX CNS PDX W/O MCC	3.9194	4.3	5.7	$23,516.40	3.8314	4.2	5.5	$22,988.40	$528.00
025	Yes	No	01	SURG	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES W MCC	4.2775	6.7	8.8	$25,665.00	4.3064	7.0	9.2	$25,838.40	($173.40)
026	Yes	No	01	SURG	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES W CC	3.0157	4.3	5.7	$18,094.20	2.9971	4.2	5.6	$17,982.60	$111.60
027	Yes	No	01	SURG	CRANIOTOMY & ENDOVASCULAR INTRACRANIAL PROCEDURES W/O CC/MCC	2.4057	2.1	2.7	$14,434.20	2.3665	2.2	2.9	$14,199.00	$235.20

*Payment is estimated using a base rate of $6,000

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
028	Yes	Yes	01	SURG	SPINAL PROCEDURES W MCC	5.3748	9.0	11.8	$32,248.80	5.5586	9.1	11.8	$33,351.60	($1,102.80)
029	Yes	Yes	01	SURG	SPINAL PROCEDURES W CC OR SPINAL NEUROSTIMULATORS	3.1557	4.4	5.8	$18,934.20	3.2737	4.2	5.7	$19,642.20	($708.00)
030	Yes	Yes	01	SURG	SPINAL PROCEDURES W/O CC/MCC	2.1757	2.3	3.0	$13,054.20	2.1333	2.2	2.8	$12,799.80	$254.40
031	Yes	No	01	SURG	VENTRICULAR SHUNT PROCEDURES W MCC	4.1829	7.2	10.1	$25,097.40	4.0742	7.0	10.1	$24,445.20	$652.20
032	Yes	No	01	SURG	VENTRICULAR SHUNT PROCEDURES W CC	2.3021	3.3	4.8	$13,812.60	2.1276	3.2	4.5	$12,765.60	$1,047.00
033	Yes	No	01	SURG	VENTRICULAR SHUNT PROCEDURES W/O CC/MCC	1.6877	1.8	2.3	$10,126.20	1.6992	1.9	2.4	$10,195.20	($69.00)
034	No	No	01	SURG	CAROTID ARTERY STENT PROCEDURE W MCC	3.5998	4.7	6.8	$21,598.80	3.9918	5.2	7.6	$23,950.80	($2,352.00)
035	No	No	01	SURG	CAROTID ARTERY STENT PROCEDURE W CC	2.2203	2.1	3.0	$13,321.80	2.2278	2.1	3.1	$13,366.80	($45.00)
036	No	No	01	SURG	CAROTID ARTERY STENT PROCEDURE W/O CC/MCC	1.7260	1.2	1.4	$10,356.00	1.7636	1.3	1.5	$10,581.60	($225.60)
037	No	No	01	SURG	EXTRACRANIAL PROCEDURES W MCC	3.2098	5.1	7.4	$19,258.80	3.1689	5.1	7.4	$19,013.40	$245.40
038	No	No	01	SURG	EXTRACRANIAL PROCEDURES W CC	1.6717	2.2	3.1	$10,030.20	1.5677	2.2	3.1	$9,406.20	$624.00
039	No	No	01	SURG	EXTRACRANIAL PROCEDURES W/O CC/MCC	1.1324	1.3	1.5	$6,794.40	1.1137	1.3	1.5	$6,682.20	$112.20
040	Yes	Yes	01	SURG	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC W MCC	3.9282	7.6	10.7	$23,569.20	3.8078	7.8	10.6	$22,846.80	$722.40
041	Yes	Yes	01	SURG	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC W CC OR PERIPH NEUROSTIM	2.3584	4.2	5.3	$14,150.40	2.3311	4.4	5.5	$13,986.60	$163.80
042	Yes	Yes	01	SURG	PERIPH/CRANIAL NERVE & OTHER NERV SYST PROC W/O CC/MCC	1.8715	2.5	3.1	$11,229.00	1.9105	2.6	3.2	$11,463.00	($234.00)
052	No	No	01	MED	SPINAL DISORDERS & INJURIES W CC/MCC	1.7004	4.1	5.8	$10,202.40	1.5091	4.0	5.4	$9,054.60	$1,147.80
053	No	No	01	MED	SPINAL DISORDERS & INJURIES W/O CC/MCC	0.9141	2.7	3.3	$5,484.60	0.9333	2.7	3.2	$5,599.80	($115.20)
054	Yes	No	01	MED	NERVOUS SYSTEM NEOPLASMS W MCC	1.3166	3.8	5.1	$7,899.60	1.3150	3.9	5.2	$7,890.00	$9.60
055	Yes	No	01	MED	NERVOUS SYSTEM NEOPLASMS W/O MCC	1.0472	3.1	4.4	$6,283.20	0.9995	2.9	3.9	$5,997.00	$286.20
056	Yes	No	01	MED	DEGENERATIVE NERVOUS SYSTEM DISORDERS W MCC	2.1245	5.5	8.1	$12,747.00	1.9135	5.4	7.7	$11,481.00	$1,266.00
057	Yes	No	01	MED	DEGENERATIVE NERVOUS SYSTEM DISORDERS W/O MCC	1.2089	3.9	5.6	$7,253.40	1.1351	3.8	5.4	$6,810.60	$442.80
058	No	No	01	MED	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA W MCC	1.7596	5.0	6.9	$10,557.60	1.6383	5.0	6.6	$9,829.80	$727.80
059	No	No	01	MED	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA W CC	1.0993	3.7	4.5	$6,595.80	1.0725	3.7	4.6	$6,435.00	$160.80
060	No	No	01	MED	MULTIPLE SCLEROSIS & CEREBELLAR ATAXIA W/O CC/MCC	0.8327	3.0	3.5	$4,996.20	0.8448	3.0	3.6	$5,068.80	($72.60)
061	No	No	01	MED	ISCHEMIC STROKE, PRECEREBRAL OCCLUSION OR TRANSIENT ISCHEMIA W THROMBOLYTIC AGENT W MCC	2.8477	5.0	6.5	$17,086.20	2.7979	5.0	6.4	$16,787.40	$298.80
062	No	No	01	MED	ISCHEMIC STROKE, PRECEREBRAL OCCLUSION OR TRANSIENT ISCHEMIA W THROMBOLYTIC AGENT W CC	1.9437	3.4	4.0	$11,662.20	1.9321	3.5	4.1	$11,592.60	$69.60

*Payment is estimated using a base rate of $6,000

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
063	No	No	01	MED	ISCHEMIC STROKE, PRECEREBRAL OCCLUSION OR TRANSIENT ISCHEMIA W THROMBOLYTIC AGENT W/O CC/MCC	1.6280	2.4	2.7	$9,768.00	1.6169	2.6	2.9	$9,701.40	$66.60
064	Yes	No	01	MED	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION W MCC	1.8692	4.4	6.1	$11,215.20	1.7685	4.4	6.1	$10,611.00	$604.20
065	Yes	No	01	MED	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION W CC OR TPA IN 24 HRS	1.0315	3.1	3.8	$6,189.00	1.0311	3.1	3.8	$6,186.60	$2.40
066	Yes	No	01	MED	INTRACRANIAL HEMORRHAGE OR CEREBRAL INFARCTION W/O CC/MCC	0.7268	2.1	2.5	$4,360.80	0.7466	2.2	2.6	$4,479.60	($118.80)
067	No	No	01	MED	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT W MCC	1.5014	3.6	4.8	$9,008.40	1.4132	3.5	4.8	$8,479.20	$529.20
068	No	No	01	MED	NONSPECIFIC CVA & PRECEREBRAL OCCLUSION W/O INFARCT W/O MCC	0.8987	2.3	2.8	$5,392.20	0.8959	2.2	2.8	$5,375.40	$16.80
069	No	No	01	MED	TRANSIENT ISCHEMIA W/O THROMBOLYTIC	0.7655	2.1	2.5	$4,593.00	0.7521	2.1	2.5	$4,512.60	$80.40
070	Yes	No	01	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS W MCC	1.6453	4.5	6.2	$9,871.80	1.6486	4.6	6.4	$9,891.60	($19.80)
071	Yes	No	01	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS W CC	0.9858	3.3	4.3	$5,914.80	0.9896	3.4	4.4	$5,937.60	($22.80)
072	Yes	No	01	MED	NONSPECIFIC CEREBROVASCULAR DISORDERS W/O CC/MCC	0.7420	2.4	2.9	$4,452.00	0.7602	2.4	3.0	$4,561.20	($109.20)
073	No	No	01	MED	CRANIAL & PERIPHERAL NERVE DISORDERS W MCC	1.4111	3.7	5.1	$8,466.60	1.4038	3.9	5.2	$8,422.80	$43.80
074	No	No	01	MED	CRANIAL & PERIPHERAL NERVE DISORDERS W/O MCC	0.9739	2.9	3.7	$5,843.40	0.9535	2.9	3.7	$5,721.00	$122.40
075	No	No	01	MED	VIRAL MENINGITIS W CC/MCC	1.4816	4.8	6.0	$8,889.60	1.6503	5.0	6.4	$9,901.80	($1,012.20)
076	No	No	01	MED	VIRAL MENINGITIS W/O CC/MCC	0.8248	2.8	3.3	$4,948.80	0.9615	3.1	3.7	$5,769.00	($820.20)
077	No	No	01	MED	HYPERTENSIVE ENCEPHALOPATHY W MCC	1.5520	4.1	5.2	$9,312.00	1.5717	4.3	5.5	$9,430.20	($118.20)
078	No	No	01	MED	HYPERTENSIVE ENCEPHALOPATHY W CC	0.9701	3.1	3.8	$5,820.60	0.9932	3.2	3.9	$5,959.20	($138.60)
079	No	No	01	MED	HYPERTENSIVE ENCEPHALOPATHY W/O CC/MCC	0.7465	2.1	2.5	$4,479.00	0.7683	2.3	2.7	$4,609.80	($130.80)
080	No	No	01	MED	NONTRAUMATIC STUPOR & COMA W MCC	1.8788	4.5	6.8	$11,272.80	1.7366	4.5	6.6	$10,419.60	$853.20
081	No	No	01	MED	NONTRAUMATIC STUPOR & COMA W/O MCC	0.8546	2.7	3.7	$5,127.60	0.7559	2.5	3.3	$4,535.40	$592.20
082	No	No	01	MED	TRAUMATIC STUPOR & COMA, COMA >1 HR W MCC	2.1586	3.8	6.0	$12,951.60	2.1536	3.8	6.3	$12,921.60	$30.00
083	No	No	01	MED	TRAUMATIC STUPOR & COMA, COMA >1 HR W CC	1.2950	3.2	4.2	$7,770.00	1.2566	3.3	4.2	$7,539.60	$230.40
084	No	No	01	MED	TRAUMATIC STUPOR & COMA, COMA >1 HR W/O CC/MCC	0.9233	2.2	2.7	$5,539.80	0.9001	2.2	2.7	$5,400.60	$139.20
085	Yes	No	01	MED	TRAUMATIC STUPOR & COMA, COMA <1 HR W MCC	2.1800	4.7	6.5	$13,080.00	2.0478	4.8	6.6	$12,286.80	$793.20
086	Yes	No	01	MED	TRAUMATIC STUPOR & COMA, COMA <1 HR W CC	1.2431	3.2	4.1	$7,458.60	1.1823	3.2	4.1	$7,093.80	$364.80
087	Yes	No	01	MED	TRAUMATIC STUPOR & COMA, COMA <1 HR W/O CC/MCC	0.8453	2.1	2.6	$5,071.80	0.8320	2.2	2.7	$4,992.00	$79.80
088	No	No	01	MED	CONCUSSION W MCC	1.4796	3.6	4.7	$8,877.60	1.4042	3.5	4.5	$8,425.20	$452.40
089	No	No	01	MED	CONCUSSION W CC	1.0675	2.7	3.5	$6,405.00	1.0067	2.7	3.3	$6,040.20	$364.80

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
090	No	No	01	MED	CONCUSSION W/O CC/MCC	0.7934	1.9	2.3	$4,760.40	0.7906	2.0	2.3	$4,743.60	$16.80
091	Yes	No	01	MED	OTHER DISORDERS OF NERVOUS SYSTEM W MCC	1.6120	4.2	5.7	$9,672.00	1.5400	4.1	5.6	$9,240.00	$432.00
092	Yes	No	01	MED	OTHER DISORDERS OF NERVOUS SYSTEM W CC	0.9433	3.0	3.8	$5,659.80	0.9368	3.0	3.9	$5,620.80	$39.00
093	Yes	No	01	MED	OTHER DISORDERS OF NERVOUS SYSTEM W/O CC/MCC	0.7378	2.2	2.7	$4,426.80	0.7290	2.2	2.7	$4,374.00	$52.80
094	No	No	01	MED	BACTERIAL & TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM W MCC	3.6779	8.0	11.0	$22,067.40	3.4131	7.7	10.2	$20,478.60	$1,588.80
095	No	No	01	MED	BACTERIAL & TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM W CC	2.3809	5.7	7.1	$14,285.40	2.3514	5.8	7.0	$14,108.40	$177.00
096	No	No	01	MED	BACTERIAL & TUBERCULOUS INFECTIONS OF NERVOUS SYSTEM W/O CC/MCC	2.1110	4.4	5.2	$12,666.00	2.2182	4.7	5.5	$13,309.20	($643.20)
097	No	No	01	MED	NON-BACTERIAL INFECT OF NERVOUS SYS EXC VIRAL MENINGITIS W MCC	3.5389	8.4	11.4	$21,233.40	3.4041	8.5	11.3	$20,424.60	$808.80
098	No	No	01	MED	NON-BACTERIAL INFECT OF NERVOUS SYS EXC VIRAL MENINGITIS W CC	1.8505	5.4	6.9	$11,103.00	1.8736	5.5	7.3	$11,241.60	($138.60)
099	No	No	01	MED	NON-BACTERIAL INFECT OF NERVOUS SYS EXC VIRAL MENINGITIS W/O CC/MCC	1.2729	3.7	4.7	$7,637.40	1.2059	3.6	4.6	$7,235.40	$402.00
100	Yes	No	01	MED	SEIZURES W MCC	1.8124	4.3	5.9	$10,874.40	1.6478	4.2	5.7	$9,886.80	$987.60
101	Yes	No	01	MED	SEIZURES W/O MCC	0.8693	2.7	3.4	$5,215.80	0.8286	2.6	3.3	$4,971.60	$244.20
102	No	No	01	MED	HEADACHES W MCC	1.0765	3.0	4.0	$6,459.00	1.0611	3.0	4.1	$6,366.60	$92.40
103	No	No	01	MED	HEADACHES W/O MCC	0.7814	2.3	3.0	$4,688.40	0.7497	2.3	2.9	$4,498.20	$190.20
113	No	No	02	SURG	ORBITAL PROCEDURES W CC/MCC	2.3027	4.5	6.2	$13,816.20	2.1871	4.2	5.8	$13,122.60	$693.60
114	No	No	02	SURG	ORBITAL PROCEDURES W/O CC/MCC	1.2551	2.3	2.9	$7,530.60	1.2812	2.3	3.0	$7,687.20	($156.60)
115	No	No	02	SURG	EXTRAOCULAR PROCEDURES EXCEPT ORBIT	1.3621	3.5	4.5	$8,172.60	1.4946	3.9	4.9	$8,967.60	($795.00)
116	No	No	02	SURG	INTRAOCULAR PROCEDURES W CC/MCC	1.7080	4.0	5.8	$10,248.00	1.5002	3.2	4.7	$9,001.20	$1,246.80
117	No	No	02	SURG	INTRAOCULAR PROCEDURES W/O CC/MCC	1.0025	2.3	3.1	$6,015.00	1.0003	2.1	2.8	$6,001.80	$13.20
121	No	No	02	MED	ACUTE MAJOR EYE INFECTIONS W CC/MCC	1.0593	4.0	5.2	$6,355.80	0.9863	3.7	4.7	$5,917.80	$438.00
122	No	No	02	MED	ACUTE MAJOR EYE INFECTIONS W/O CC/MCC	0.7058	3.2	4.1	$4,234.80	0.7637	3.3	4.1	$4,582.20	($347.40)
123	No	No	02	MED	NEUROLOGICAL EYE DISORDERS	0.7529	2.0	2.5	$4,517.40	0.7489	2.1	2.6	$4,493.40	$24.00
124	No	No	02	MED	OTHER DISORDERS OF THE EYE W MCC	1.3313	3.6	4.9	$7,987.80	1.2489	3.6	4.9	$7,493.40	$494.40
125	No	No	02	MED	OTHER DISORDERS OF THE EYE W/O MCC	0.8102	2.6	3.3	$4,861.20	0.7722	2.6	3.3	$4,633.20	$228.00
129	No	No	03	SURG	MAJOR HEAD & NECK PROCEDURES W CC/MCC OR MAJOR DEVICE	2.4310	3.7	5.5	$14,586.00	2.2924	3.7	5.3	$13,754.40	$831.60
130	No	No	03	SURG	MAJOR HEAD & NECK PROCEDURES W/O CC/MCC	1.4912	2.3	2.9	$8,947.20	1.4379	2.3	2.9	$8,627.40	$319.80
131	No	No	03	SURG	CRANIAL/FACIAL PROCEDURES W CC/MCC	2.6284	4.2	5.7	$15,770.40	2.5712	4.4	6.1	$15,427.20	$343.20
132	No	No	03	SURG	CRANIAL/FACIAL PROCEDURES W/O CC/MCC	1.5286	2.0	2.5	$9,171.60	1.5556	2.2	2.8	$9,333.60	($162.00)
133	No	No	03	SURG	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W CC/MCC	2.0986	4.0	5.8	$12,591.60	1.9857	3.8	5.4	$11,914.20	$677.40
134	No	No	03	SURG	OTHER EAR, NOSE, MOUTH & THROAT O.R. PROCEDURES W/O CC/MCC	1.1987	2.0	2.5	$7,192.20	1.1607	2.0	2.5	$6,964.20	$228.00

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019								FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
135	No	No	03	SURG	SINUS & MASTOID PROCEDURES W CC/MCC	2.2982	4.4	6.4	$13,789.20	2.2723	4.5	6.3	$13,633.80	$155.40
136	No	No	03	SURG	SINUS & MASTOID PROCEDURES W/O CC/MCC	1.2125	1.8	2.8	$7,275.00	1.2988	2.0	2.7	$7,792.80	($517.80)
137	No	No	03	SURG	MOUTH PROCEDURES W CC/MCC	1.3771	3.6	4.8	$8,262.60	1.3636	3.6	4.7	$8,181.60	$81.00
138	No	No	03	SURG	MOUTH PROCEDURES W/O CC/MCC	0.8452	2.0	2.4	$5,071.20	0.8656	2.0	2.5	$5,193.60	($122.40)
139	No	No	03	SURG	SALIVARY GLAND PROCEDURES	1.1604	2.1	2.8	$6,962.40	1.1160	1.9	2.7	$6,696.00	$266.40
146	No	No	03	MED	EAR, NOSE, MOUTH & THROAT MALIGNANCY W MCC	1.9231	5.3	7.4	$11,538.60	1.9227	5.4	7.8	$11,536.20	$2.40
147	No	No	03	MED	EAR, NOSE, MOUTH & THROAT MALIGNANCY W CC	1.2505	3.7	5.2	$7,503.00	1.2505	3.7	5.0	$7,503.00	$0.00
148	No	No	03	MED	EAR, NOSE, MOUTH & THROAT MALIGNANCY W/O CC/MCC	0.7238	2.1	2.8	$4,342.80	0.8141	2.2	2.9	$4,884.60	($541.80)
149	No	No	03	MED	DYSEQUILIBRIUM	0.7111	2.0	2.5	$4,266.60	0.7042	2.1	2.5	$4,225.20	$41.40
150	No	No	03	MED	EPISTAXIS W MCC	1.3275	3.5	4.8	$7,965.00	1.3228	3.5	4.7	$7,936.80	$28.20
151	No	No	03	MED	EPISTAXIS W/O MCC	0.7038	2.2	2.8	$4,222.80	0.7319	2.3	2.8	$4,391.40	($168.60)
152	No	No	03	MED	OTITIS MEDIA & URI W MCC	1.0421	3.2	4.1	$6,252.60	1.0511	3.2	4.1	$6,306.60	($54.00)
153	No	No	03	MED	OTITIS MEDIA & URI W/O MCC	0.7118	2.4	2.9	$4,270.80	0.7151	2.4	2.9	$4,290.60	($19.80)
154	No	No	03	MED	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES W MCC	1.4465	4.0	5.3	$8,679.00	1.4528	4.1	5.5	$8,716.80	($37.80)
155	No	No	03	MED	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES W CC	0.8833	2.9	3.7	$5,299.80	0.8975	3.0	3.7	$5,385.00	($85.20)
156	No	No	03	MED	OTHER EAR, NOSE, MOUTH & THROAT DIAGNOSES W/O CC/MCC	0.6599	2.2	2.7	$3,959.40	0.6656	2.2	2.7	$3,993.60	($34.20)
157	No	No	03	MED	DENTAL & ORAL DISEASES W MCC	1.6730	4.4	6.1	$10,038.00	1.5479	4.4	5.8	$9,287.40	$750.60
158	No	No	03	MED	DENTAL & ORAL DISEASES W CC	0.8903	2.8	3.6	$5,341.80	0.8885	3.0	3.7	$5,331.00	$10.80
159	No	No	03	MED	DENTAL & ORAL DISEASES W/O CC/MCC	0.6784	2.1	2.6	$4,070.40	0.6732	2.2	2.6	$4,039.20	$31.20
163	Yes	No	04	SURG	MAJOR CHEST PROCEDURES W MCC	4.9193	9.7	12.1	$29,515.80	4.9422	10.0	12.5	$29,653.20	($137.40)
164	Yes	No	04	SURG	MAJOR CHEST PROCEDURES W CC	2.5689	4.8	5.9	$15,413.40	2.5776	5.1	6.1	$15,465.60	($52.20)
165	Yes	No	04	SURG	MAJOR CHEST PROCEDURES W/O CC/MCC	1.8524	2.9	3.5	$11,114.40	1.8507	3.1	3.7	$11,104.20	$10.20
166	Yes	No	04	SURG	OTHER RESP SYSTEM O.R. PROCEDURES W MCC	3.4980	7.9	10.2	$20,988.00	3.5470	8.1	10.4	$21,282.00	($294.00)
167	Yes	No	04	SURG	OTHER RESP SYSTEM O.R. PROCEDURES W CC	1.8976	4.3	5.6	$11,385.60	1.8497	4.5	5.7	$11,098.20	$287.40
168	Yes	No	04	SURG	OTHER RESP SYSTEM O.R. PROCEDURES W/O CC/MCC	1.3416	2.4	3.0	$8,049.60	1.2904	2.5	3.1	$7,742.40	$307.20
175	Yes	No	04	MED	PULMONARY EMBOLISM W MCC	1.4649	4.3	5.3	$8,789.40	1.4678	4.4	5.5	$8,806.80	($17.40)
176	Yes	No	04	MED	PULMONARY EMBOLISM W/O MCC	0.8990	2.8	3.4	$5,394.00	0.8952	2.9	3.6	$5,371.20	$22.80
177	Yes	No	04	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS W MCC	1.8408	5.5	6.8	$11,044.80	1.8507	5.7	7.1	$11,104.20	($59.40)
178	Yes	No	04	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS W CC	1.2744	4.3	5.3	$7,646.40	1.2952	4.5	5.4	$7,771.20	($124.80)
179	Yes	No	04	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS W/O CC/MCC	0.9215	3.2	4.0	$5,529.00	0.9300	3.4	4.1	$5,580.00	($51.00)
180	No	No	04	MED	RESPIRATORY NEOPLASMS W MCC	1.6960	4.9	6.5	$10,176.00	1.6894	5.0	6.5	$10,136.40	$39.60
181	No	No	04	MED	RESPIRATORY NEOPLASMS W CC	1.1409	3.4	4.5	$6,845.40	1.1560	3.5	4.6	$6,936.00	($90.60)

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	FY 2019 Weight	FY 2019 Geometric Mean LOS	FY 2019 Arithmetic Mean LOS	FY 2019 Payment*	FY 2018 Weight	FY 2018 Geometric Mean LOS	FY 2018 Arithmetic Mean LOS	FY 2018 Payment*	Payment Change 2018-2019
182	No	No	04	MED	RESPIRATORY NEOPLASMS W/O CC/MCC	0.7951	2.2	2.8	$4,770.60	0.8448	2.4	3.1	$5,068.80	($298.20)
183	No	No	04	MED	MAJOR CHEST TRAUMA W MCC	1.4909	4.4	5.5	$8,945.40	1.4768	4.5	5.6	$8,860.80	$84.60
184	No	No	04	MED	MAJOR CHEST TRAUMA W CC	1.0044	3.2	3.8	$6,026.40	1.0150	3.3	3.9	$6,090.00	($63.60)
185	No	No	04	MED	MAJOR CHEST TRAUMA W/O CC/MCC	0.7323	2.4	2.8	$4,393.80	0.7589	2.5	2.9	$4,553.40	($159.60)
186	Yes	No	04	MED	PLEURAL EFFUSION W MCC	1.5595	4.4	5.8	$9,357.00	1.5246	4.5	5.8	$9,147.60	$209.40
187	Yes	No	04	MED	PLEURAL EFFUSION W CC	1.0540	3.3	4.1	$6,324.00	1.0568	3.3	4.2	$6,340.80	($16.80)
188	Yes	No	04	MED	PLEURAL EFFUSION W/O CC/MCC	0.7672	2.4	3.0	$4,603.20	0.7992	2.5	3.2	$4,795.20	($192.00)
189	No	No	04	MED	PULMONARY EDEMA & RESPIRATORY FAILURE	1.2353	3.8	4.8	$7,411.80	1.2196	3.7	4.8	$7,317.60	$94.20
190	Yes	No	04	MED	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W MCC	1.1907	3.8	4.7	$7,144.20	1.1526	3.8	4.6	$6,915.60	$228.60
191	Yes	No	04	MED	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W CC	0.9139	3.1	3.7	$5,483.40	0.9176	3.1	3.8	$5,505.60	($22.20)
192	Yes	No	04	MED	CHRONIC OBSTRUCTIVE PULMONARY DISEASE W/O CC/MCC	0.7241	2.5	3.0	$4,344.60	0.7265	2.6	3.0	$4,359.00	($14.40)
193	Yes	No	04	MED	SIMPLE PNEUMONIA & PLEURISY W MCC	1.3167	4.2	5.2	$7,900.20	1.3731	4.5	5.4	$8,238.60	($338.40)
194	Yes	No	04	MED	SIMPLE PNEUMONIA & PLEURISY W CC	0.9002	3.3	3.9	$5,401.20	0.9332	3.4	4.1	$5,599.20	($198.00)
195	Yes	No	04	MED	SIMPLE PNEUMONIA & PLEURISY W/O CC/MCC	0.6868	2.6	3.1	$4,120.80	0.7099	2.7	3.2	$4,259.40	($138.60)
196	Yes	No	04	MED	INTERSTITIAL LUNG DISEASE W MCC	1.6381	4.8	6.2	$9,828.60	1.5964	5.0	6.3	$9,578.40	$250.20
197	Yes	No	04	MED	INTERSTITIAL LUNG DISEASE W CC	1.0017	3.3	4.0	$6,010.20	1.0449	3.4	4.2	$6,269.40	($259.20)
198	Yes	No	04	MED	INTERSTITIAL LUNG DISEASE W/O CC/MCC	0.7585	2.5	3.1	$4,551.00	0.7824	2.6	3.1	$4,694.40	($143.40)
199	No	No	04	MED	PNEUMOTHORAX W MCC	1.7628	5.3	6.9	$10,696.80	1.8065	5.4	6.9	$10,839.00	($142.20)
200	No	No	04	MED	PNEUMOTHORAX W CC	1.0748	3.4	4.3	$6,448.80	1.0611	3.4	4.2	$6,366.60	$82.20
201	No	No	04	MED	PNEUMOTHORAX W/O CC/MCC	0.6989	2.4	3.0	$4,193.40	0.7600	2.5	3.1	$4,560.00	($366.60)
202	No	No	04	MED	BRONCHITIS & ASTHMA W CC/MCC	0.9401	3.0	3.7	$5,640.60	0.9260	3.1	3.8	$5,556.00	$84.60
203	No	No	04	MED	BRONCHITIS & ASTHMA W/O CC/MCC	0.6970	2.4	2.9	$4,182.00	0.7055	2.4	2.9	$4,233.00	($51.00)
204	No	No	04	MED	RESPIRATORY SIGNS & SYMPTOMS	0.7676	2.2	2.8	$4,605.60	0.7662	2.2	2.8	$4,597.20	$8.40
205	Yes	No	04	MED	OTHER RESPIRATORY SYSTEM DIAGNOSES W MCC	1.5179	4.0	5.4	$9,107.40	1.4930	4.0	5.4	$8,958.00	$149.40
206	Yes	No	04	MED	OTHER RESPIRATORY SYSTEM DIAGNOSES W/O MCC	0.8635	2.5	3.1	$5,181.00	0.8518	2.5	3.1	$5,110.80	$70.20
207	Yes	No	04	MED	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT >96 HOURS OR PERIPHERAL EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)	5.5965	12.0	13.9	$33,579.00	5.4845	12.2	14.1	$32,907.00	$672.00
208	No	No	04	MED	RESPIRATORY SYSTEM DIAGNOSIS W VENTILATOR SUPPORT <=96 HOURS	2.4374	4.9	6.7	$14,624.40	2.3678	4.9	6.7	$14,206.80	$417.60
215	No	No	05	SURG	OTHER HEART ASSIST SYSTEM IMPLANT	12.8861	5.2	8.7	$77,316.60	12.8861	7.2	11.9	$77,316.48	$0.12
216	Yes	Yes	05	SURG	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W MCC	9.8209	12.5	15.3	$58,925.40	9.4996	11.2	14.4	$56,997.60	$1,927.80
217	Yes	Yes	05	SURG	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W CC	6.3628	7.3	8.8	$38,176.80	6.2829	7.4	8.9	$37,697.40	$479.40

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MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	FY 2019 Weight	FY 2019 Geometric Mean LOS	FY 2019 Arithmetic Mean LOS	FY 2019 Payment*	FY 2018 Weight	FY 2018 Geometric Mean LOS	FY 2018 Arithmetic Mean LOS	FY 2018 Payment*	Payment Change 2018-2019
218	Yes	Yes	05	SURG	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W CARD CATH W/O CC/MCC	5.9053	4.1	5.5	$35,431.80	5.6840	4.7	5.9	$34,104.00	$1,327.80
219	Yes	Yes	05	SURG	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W MCC	7.6916	9.1	11.1	$46,149.60	7.6075	9.2	11.2	$45,645.00	$504.60
220	Yes	Yes	05	SURG	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W CC	5.2053	6.1	6.7	$31,231.80	5.1403	6.2	6.8	$30,841.80	$390.00
221	Yes	Yes	05	SURG	CARDIAC VALVE & OTH MAJ CARDIOTHORACIC PROC W/O CARD CATH W/O CC/MCC	4.6074	4.2	4.8	$27,644.40	4.5838	4.5	5.0	$27,502.80	$141.60
222	No	No	05	SURG	CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W MCC	8.1372	9.2	11.1	$48,823.20	8.4852	10.1	12.1	$50,911.20	($2,088.00)
223	No	No	05	SURG	CARDIAC DEFIB IMPLANT W CARDIAC CATH W AMI/HF/SHOCK W/O MCC	6.3562	5.3	6.4	$38,137.20	6.4420	5.6	6.8	$38,652.00	($514.80)
224	No	No	05	SURG	CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W MCC	7.4247	7.7	9.6	$44,548.20	7.3411	7.4	9.1	$44,046.60	$501.60
225	No	No	05	SURG	CARDIAC DEFIB IMPLANT W CARDIAC CATH W/O AMI/HF/SHOCK W/O MCC	5.7194	4.1	4.8	$34,316.40	5.6612	4.1	4.8	$33,967.20	$349.20
226	No	No	05	SURG	CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W MCC	6.8182	6.5	8.4	$40,909.20	6.7973	6.5	8.5	$40,783.80	$125.40
227	No	No	05	SURG	CARDIAC DEFIBRILLATOR IMPLANT W/O CARDIAC CATH W/O MCC	5.3167	3.1	4.1	$31,900.20	5.4049	3.3	4.4	$32,429.40	($529.20)
228	No	No	05	SURG	OTHER CARDIOTHORACIC PROCEDURES W MCC	6.5762	6.7	9.7	$39,457.20	6.5964	6.8	9.8	$39,578.40	($121.20)
229	No	No	05	SURG	OTHER CARDIOTHORACIC PROCEDURES W/O MCC	4.6484	3.4	4.7	$27,890.40	4.5842	3.6	4.8	$27,505.20	$385.20
231	No	No	05	SURG	CORONARY BYPASS W PTCA W MCC	8.3989	10.3	12.0	$50,393.40	8.1123	10.2	12.0	$48,673.80	$1,719.60
232	No	No	05	SURG	CORONARY BYPASS W PTCA W/O MCC	6.1604	8.0	8.8	$36,962.40	5.8404	7.7	8.5	$35,042.40	$1,920.00
233	Yes	No	05	SURG	CORONARY BYPASS W CARDIAC CATH W MCC	7.6377	11.5	12.9	$45,826.20	7.3436	11.5	12.9	$44,061.60	$1,764.60
234	Yes	No	05	SURG	CORONARY BYPASS W CARDIAC CATH W/O MCC	5.1472	8.1	8.6	$30,883.20	5.0566	8.1	8.7	$30,339.60	$543.60
235	Yes	No	05	SURG	CORONARY BYPASS W/O CARDIAC CATH W MCC	5.8099	8.8	10.1	$34,859.40	5.7786	8.8	10.1	$34,671.60	$187.80
236	Yes	No	05	SURG	CORONARY BYPASS W/O CARDIAC CATH W/O MCC	3.9263	6.0	6.5	$23,557.80	3.8838	6.0	6.5	$23,302.80	$255.00
239	Yes	No	05	SURG	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W MCC	4.7093	10.2	13.0	$28,255.80	4.6456	10.2	13.0	$27,873.60	$382.20
240	Yes	No	05	SURG	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W CC	2.7449	7.0	8.5	$16,469.40	2.6669	6.9	8.4	$16,001.40	$468.00
241	Yes	No	05	SURG	AMPUTATION FOR CIRC SYS DISORDERS EXC UPPER LIMB & TOE W/O CC/MCC	1.5960	4.4	5.2	$9,576.00	1.4774	4.3	5.1	$8,864.40	$711.60
242	Yes	No	05	SURG	PERMANENT CARDIAC PACEMAKER IMPLANT W MCC	3.7369	5.4	7.0	$22,421.40	3.7055	5.5	7.0	$22,233.00	$188.40
243	Yes	No	05	SURG	PERMANENT CARDIAC PACEMAKER IMPLANT W CC	2.5543	3.3	4.0	$15,325.80	2.6088	3.4	4.2	$15,652.80	($327.00)
244	Yes	No	05	SURG	PERMANENT CARDIAC PACEMAKER IMPLANT W/O CC/MCC	2.1108	2.3	2.7	$12,664.80	2.1395	2.4	2.8	$12,837.00	($172.20)
245	No	No	05	SURG	AICD GENERATOR PROCEDURES	5.0121	4.4	6.1	$30,072.60	5.4524	4.5	6.4	$32,714.40	($2,641.80)

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
246	No	No	05	SURG	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W DRUG-ELUTING STENT W MCC OR 4+ ARTERIES OR STENTS	3.2388	4.1	5.4	$19,432.80	3.2103	4.2	5.5	$19,261.80	$171.00
247	No	No	05	SURG	PERC CARDIOVASC PROC W DRUG-ELUTING STENT W/O MCC	2.0771	2.2	2.6	$12,462.60	2.1156	2.2	2.6	$12,693.60	($231.00)
248	No	No	05	SURG	PERCUTANEOUS CARDIOVASCULAR PROCEDURES W NON-DRUG-ELUTING STENT W MCC OR 4+ ARTERIES OR STENTS	3.1726	4.7	6.3	$19,035.60	3.0476	4.8	6.3	$18,285.60	$750.00
249	No	No	05	SURG	PERC CARDIOVASC PROC W NON-DRUG-ELUTING STENT W/O MCC	1.9901	2.4	3.0	$11,940.60	1.9567	2.5	3.0	$11,740.20	$200.40
250	No	No	05	SURG	PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT W MCC	2.5868	3.9	5.3	$15,520.80	2.5059	4.0	5.3	$15,035.40	$485.40
251	No	No	05	SURG	PERC CARDIOVASC PROC W/O CORONARY ARTERY STENT W/O MCC	1.6778	2.2	2.7	$10,066.80	1.6627	2.3	2.7	$9,976.20	$90.60
252	No	No	05	SURG	OTHER VASCULAR PROCEDURES W MCC	3.2598	5.3	7.6	$19,558.80	3.2334	5.4	7.6	$19,400.40	$158.40
253	No	No	05	SURG	OTHER VASCULAR PROCEDURES W CC	2.5943	4.1	5.4	$15,565.80	2.5350	4.2	5.5	$15,210.00	$355.80
254	No	No	05	SURG	OTHER VASCULAR PROCEDURES W/O CC/MCC	1.8100	2.3	2.8	$10,860.00	1.8127	2.3	2.9	$10,876.20	($16.20)
255	Yes	No	05	SURG	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W MCC	2.5403	6.5	8.1	$15,241.80	2.5153	6.6	8.3	$15,091.80	$150.00
256	Yes	No	05	SURG	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W CC	1.7487	5.2	6.2	$10,492.20	1.7431	5.3	6.3	$10,458.60	$33.60
257	Yes	No	05	SURG	UPPER LIMB & TOE AMPUTATION FOR CIRC SYSTEM DISORDERS W/O CC/MCC	1.1261	3.5	4.3	$6,756.60	1.1259	3.4	4.1	$6,755.40	$1.20
258	No	No	05	SURG	CARDIAC PACEMAKER DEVICE REPLACEMENT W MCC	2.9888	5.0	6.4	$17,932.80	3.0814	4.9	6.4	$18,488.40	($555.60)
259	No	No	05	SURG	CARDIAC PACEMAKER DEVICE REPLACEMENT W/O MCC	2.0970	2.7	3.4	$12,582.00	2.0869	2.8	3.5	$12,521.40	$60.60
260	No	No	05	SURG	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W MCC	3.6195	6.8	9.2	$21,717.00	3.5875	6.9	9.3	$21,525.00	$192.00
261	No	No	05	SURG	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W CC	1.9918	3.3	4.2	$11,950.80	1.9381	3.3	4.2	$11,628.60	$322.20
262	No	No	05	SURG	CARDIAC PACEMAKER REVISION EXCEPT DEVICE REPLACEMENT W/O CC/MCC	1.6309	2.3	2.7	$9,785.40	1.6510	2.4	2.8	$9,906.00	($120.60)
263	No	No	05	SURG	VEIN LIGATION & STRIPPING	2.3922	4.2	6.3	$14,353.20	2.3369	4.4	6.1	$14,021.40	$331.80
264	Yes	No	05	SURG	OTHER CIRCULATORY SYSTEM O.R. PROCEDURES	3.1586	6.5	9.2	$18,951.60	3.2177	6.7	9.3	$19,306.20	($354.60)
265	No	No	05	SURG	AICD LEAD PROCEDURES	3.1167	3.7	5.1	$18,700.20	3.3378	3.7	5.0	$20,026.80	($1,326.60)
266	Yes	Yes	05	SURG	ENDOVASCULAR CARDIAC VALVE REPLACEMENT W MCC	7.1915	4.0	6.1	$43,149.00	7.7525	5.0	7.2	$46,515.00	($3,366.00)
267	Yes	Yes	05	SURG	ENDOVASCULAR CARDIAC VALVE REPLACEMENT W/O MCC	5.8481	2.3	2.9	$35,088.60	6.1066	2.9	3.5	$36,639.60	($1,551.00)
268	No	No	05	SURG	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON W MCC	6.7037	6.4	9.5	$40,222.20	6.5268	6.6	9.6	$39,160.80	$1,061.40

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
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269	No	No	05	SURG	AORTIC AND HEART ASSIST PROCEDURES EXCEPT PULSATION BALLOON W/O MCC	4.1509	1.7	2.4	$24,905.40	4.1556	1.8	2.5	$24,933.60	($28.20)
270	No	No	05	SURG	OTHER MAJOR CARDIOVASCULAR PROCEDURES W MCC	5.0617	6.6	9.5	$30,370.20	4.9411	6.5	9.5	$29,646.60	$723.60
271	No	No	05	SURG	OTHER MAJOR CARDIOVASCULAR PROCEDURES W CC	3.4938	4.3	5.8	$20,962.80	3.3836	4.4	5.8	$20,301.60	$661.20
272	No	No	05	SURG	OTHER MAJOR CARDIOVASCULAR PROCEDURES W/O CC/MCC	2.6181	2.1	2.8	$15,708.60	2.4538	2.2	2.8	$14,722.80	$985.80
273	Yes	Yes	05	SURG	PERCUTANEOUS INTRACARDIAC PROCEDURES W MCC	3.6525	5.3	7.3	$21,915.00	3.5791	5.7	7.7	$21,474.60	$440.40
274	Yes	Yes	05	SURG	PERCUTANEOUS INTRACARDIAC PROCEDURES W/O MCC	2.9783	2.0	2.6	$17,869.80	2.7684	2.3	3.0	$16,610.40	$1,259.40
280	Yes	No	05	MED	ACUTE MYOCARDIAL INFARCTION, DISCHARGED ALIVE W MCC	1.6571	4.2	5.4	$9,942.60	1.6577	4.3	5.5	$9,946.20	($3.60)
281	Yes	No	05	MED	ACUTE MYOCARDIAL INFARCTION, DISCHARGED ALIVE W CC	0.9796	2.6	3.2	$5,877.60	0.9848	2.7	3.4	$5,908.80	($31.20)
282	Yes	No	05	MED	ACUTE MYOCARDIAL INFARCTION, DISCHARGED ALIVE W/O CC/MCC	0.7490	1.8	2.2	$4,494.00	0.7586	1.9	2.3	$4,551.60	($57.60)
283	No	No	05	MED	ACUTE MYOCARDIAL INFARCTION, EXPIRED W MCC	1.8047	3.0	4.8	$10,828.20	1.7572	3.0	4.8	$10,543.20	$285.00
284	No	No	05	MED	ACUTE MYOCARDIAL INFARCTION, EXPIRED W CC	0.7666	1.7	2.3	$4,599.60	0.7871	1.7	2.4	$4,722.60	($123.00)
285	No	No	05	MED	ACUTE MYOCARDIAL INFARCTION, EXPIRED W/O CC/MCC	0.5964	1.3	1.6	$3,578.40	0.5533	1.3	1.4	$3,319.80	$258.60
286	No	No	05	MED	CIRCULATORY DISORDERS EXCEPT AMI, W CARD CATH W MCC	2.1808	5.2	6.9	$13,084.80	2.2282	5.3	7.1	$13,369.20	($284.40)
287	No	No	05	MED	CIRCULATORY DISORDERS EXCEPT AMI, W CARD CATH W/O MCC	1.1389	2.4	3.0	$6,833.40	1.1750	2.5	3.3	$7,050.00	($216.60)
288	Yes	No	05	MED	ACUTE & SUBACUTE ENDOCARDITIS W MCC	2.6941	7.3	9.6	$16,164.60	2.7081	7.3	9.6	$16,248.60	($84.00)
289	Yes	No	05	MED	ACUTE & SUBACUTE ENDOCARDITIS W CC	1.7099	5.4	6.7	$10,259.40	1.6946	5.4	6.7	$10,167.60	$91.80
290	Yes	No	05	MED	ACUTE & SUBACUTE ENDOCARDITIS W/O CC/MCC	1.0114	3.4	4.3	$6,068.40	1.0906	3.9	4.6	$6,543.60	($475.20)
291	Yes	No	05	MED	HEART FAILURE & SHOCK W MCC OR PERIPHERAL EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)	1.3454	4.1	5.2	$8,072.40	1.4759	4.5	5.7	$8,855.40	($783.00)
292	Yes	No	05	MED	HEART FAILURE & SHOCK W CC	0.9198	3.3	4.0	$5,518.80	0.9588	3.5	4.2	$5,752.80	($234.00)
293	Yes	No	05	MED	HEART FAILURE & SHOCK W/O CC/MCC	0.6656	2.4	2.8	$3,993.60	0.6736	2.5	3.0	$4,041.60	($48.00)
294	No	No	05	MED	DEEP VEIN THROMBOPHLEBITIS W CC/MCC	1.1608	3.4	4.4	$6,964.80	1.0213	3.6	4.5	$6,127.80	$837.00
295	No	No	05	MED	DEEP VEIN THROMBOPHLEBITIS W/O CC/MCC	0.5513	2.3	3.1	$3,307.80	0.7855	3.0	3.6	$4,713.00	($1,405.20)
296	No	No	05	MED	CARDIAC ARREST, UNEXPLAINED W MCC OR PERIPHERAL EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)	1.5355	2.0	3.2	$9,213.00	1.4903	2.0	3.1	$8,941.80	$271.20
297	No	No	05	MED	CARDIAC ARREST, UNEXPLAINED W CC	0.6524	1.3	1.5	$3,914.40	0.6569	1.3	1.6	$3,941.40	($27.00)
298	No	No	05	MED	CARDIAC ARREST, UNEXPLAINED W/O CC/MCC	0.4825	1.1	1.2	$2,895.00	0.4850	1.1	1.2	$2,910.00	($15.00)

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	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
299	Yes	No	05	MED	PERIPHERAL VASCULAR DISORDERS W MCC	1.4504	3.9	5.2	$8,702.40	1.4112	4.0	5.3	$8,467.20	$235.20
300	Yes	No	05	MED	PERIPHERAL VASCULAR DISORDERS W CC	1.0237	3.3	4.1	$6,142.20	1.0184	3.3	4.2	$6,110.40	$31.80
301	Yes	No	05	MED	PERIPHERAL VASCULAR DISORDERS W/O CC/MCC	0.7262	2.3	2.8	$4,357.20	0.7251	2.4	3.0	$4,350.60	$6.60
302	No	No	05	MED	ATHEROSCLEROSIS W MCC	1.0695	2.7	3.6	$6,417.00	1.0727	2.8	3.9	$6,436.20	($19.20)
303	No	No	05	MED	ATHEROSCLEROSIS W/O MCC	0.6655	1.9	2.3	$3,993.00	0.6630	1.9	2.3	$3,978.00	$15.00
304	No	No	05	MED	HYPERTENSION W MCC	1.0811	3.0	3.9	$6,486.60	1.0484	3.1	4.1	$6,290.40	$196.20
305	No	No	05	MED	HYPERTENSION W/O MCC	0.7199	2.2	2.7	$4,319.40	0.6916	2.1	2.6	$4,149.60	$169.80
306	No	No	05	MED	CARDIAC CONGENITAL & VALVULAR DISORDERS W MCC	1.4088	3.8	5.2	$8,452.80	1.3621	3.8	5.1	$8,172.60	$280.20
307	No	No	05	MED	CARDIAC CONGENITAL & VALVULAR DISORDERS W/O MCC	0.8560	2.4	3.1	$5,136.00	0.8274	2.5	3.1	$4,964.40	$171.60
308	No	No	05	MED	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS W MCC	1.2036	3.6	4.6	$7,221.60	1.1885	3.6	4.6	$7,131.00	$90.60
309	No	No	05	MED	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS W CC	0.7635	2.5	3.0	$4,581.00	0.7720	2.5	3.1	$4,632.00	($51.00)
310	No	No	05	MED	CARDIAC ARRHYTHMIA & CONDUCTION DISORDERS W/O CC/MCC	0.5623	1.9	2.2	$3,373.80	0.5625	1.9	2.3	$3,375.00	($1.20)
311	No	No	05	MED	ANGINA PECTORIS	0.6872	1.9	2.4	$4,123.20	0.6793	1.9	2.4	$4,075.80	$47.40
312	No	No	05	MED	SYNCOPE & COLLAPSE	0.8015	2.3	2.9	$4,809.00	0.7965	2.4	2.9	$4,779.00	$30.00
313	No	No	05	MED	CHEST PAIN	0.7073	1.7	2.1	$4,243.80	0.7024	1.8	2.2	$4,214.40	$29.40
314	Yes	No	05	MED	OTHER CIRCULATORY SYSTEM DIAGNOSES W MCC	2.0231	4.8	6.5	$12,138.60	1.9582	4.8	6.5	$11,749.20	$389.40
315	Yes	No	05	MED	OTHER CIRCULATORY SYSTEM DIAGNOSES W CC	0.9559	2.8	3.6	$5,735.40	0.9658	2.9	3.7	$5,794.80	($59.40)
316	Yes	No	05	MED	OTHER CIRCULATORY SYSTEM DIAGNOSES W/O CC/MCC	0.7513	2.0	2.4	$4,507.80	0.7401	2.0	2.5	$4,440.60	$67.20
326	Yes	No	06	SURG	STOMACH, ESOPHAGEAL & DUODENAL PROC W MCC	5.2559	10.1	13.5	$31,535.40	4.5478	8.8	12.0	$27,286.80	$4,248.60
327	Yes	No	06	SURG	STOMACH, ESOPHAGEAL & DUODENAL PROC W CC	2.4843	4.9	6.7	$14,905.80	2.1162	4.6	6.0	$12,697.20	$2,208.60
328	Yes	No	06	SURG	STOMACH, ESOPHAGEAL & DUODENAL PROC W/O CC/MCC	1.5421	2.2	2.8	$9,252.60	1.5044	2.4	3.0	$9,026.40	$226.20
329	Yes	No	06	SURG	MAJOR SMALL & LARGE BOWEL PROCEDURES W MCC	4.9927	10.8	13.4	$29,956.20	4.9133	10.8	13.5	$29,479.80	$476.40
330	Yes	No	06	SURG	MAJOR SMALL & LARGE BOWEL PROCEDURES W CC	2.5233	6.2	7.4	$15,139.80	2.4689	6.3	7.5	$14,813.40	$326.40
331	Yes	No	06	SURG	MAJOR SMALL & LARGE BOWEL PROCEDURES W/O CC/MCC	1.6947	3.7	4.2	$10,168.20	1.6758	3.8	4.3	$10,054.80	$113.40
332	Yes	No	06	SURG	RECTAL RESECTION W MCC	3.3982	6.9	8.8	$20,389.20	3.8214	7.7	9.6	$22,928.16	($2,538.96)
333	Yes	No	06	SURG	RECTAL RESECTION W CC	1.9278	4.4	5.4	$11,566.80	1.9925	4.4	5.5	$11,954.88	($388.08)
334	Yes	No	06	SURG	RECTAL RESECTION W/O CC/MCC	1.3062	2.4	2.9	$7,837.20	1.2969	2.5	3.1	$7,781.40	$55.80
335	Yes	No	06	SURG	PERITONEAL ADHESIOLYSIS W MCC	4.0620	10.1	12.3	$24,372.00	4.0938	10.3	12.5	$24,562.80	($190.80)
336	Yes	No	06	SURG	PERITONEAL ADHESIOLYSIS W CC	2.2982	6.3	7.7	$13,789.20	2.3397	6.5	7.9	$14,038.20	($249.00)
337	Yes	No	06	SURG	PERITONEAL ADHESIOLYSIS W/O CC/MCC	1.6033	3.9	4.8	$9,619.80	1.6182	4.0	5.0	$9,709.20	($89.40)
338	No	No	06	SURG	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG W MCC	2.8648	6.6	8.2	$17,188.80	2.7639	6.5	8.2	$16,583.40	$605.40

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339	No	No	06	SURG	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG W CC	1.7406	4.3	5.2	$10,443.60	1.7051	4.3	5.3	$10,230.60	$213.00
340	No	No	06	SURG	APPENDECTOMY W COMPLICATED PRINCIPAL DIAG W/O CC/MCC	1.1878	2.4	2.9	$7,126.80	1.1998	2.5	3.0	$7,198.80	($72.00)
341	No	No	06	SURG	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W MCC	2.2845	4.6	6.3	$13,707.00	2.4880	4.6	6.4	$14,928.00	($1,221.00)
342	No	No	06	SURG	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W CC	1.4188	2.7	3.5	$8,512.80	1.4882	2.8	3.7	$8,929.20	($416.40)
343	No	No	06	SURG	APPENDECTOMY W/O COMPLICATED PRINCIPAL DIAG W/O CC/MCC	1.0853	1.7	2.0	$6,511.80	1.0557	1.7	2.1	$6,334.20	$177.60
344	No	No	06	SURG	MINOR SMALL & LARGE BOWEL PROCEDURES W MCC	2.9872	7.6	10.1	$17,923.20	2.7528	7.2	9.6	$16,516.80	$1,406.40
345	No	No	06	SURG	MINOR SMALL & LARGE BOWEL PROCEDURES W CC	1.6376	4.6	5.7	$9,825.60	1.5613	4.5	5.7	$9,367.80	$457.80
346	No	No	06	SURG	MINOR SMALL & LARGE BOWEL PROCEDURES W/O CC/MCC	1.2366	3.2	3.8	$7,419.60	1.1007	3.2	3.7	$6,604.20	$815.40
347	No	No	06	SURG	ANAL & STOMAL PROCEDURES W MCC	2.4111	5.7	7.8	$14,466.60	2.6296	6.3	8.4	$15,777.60	($1,311.00)
348	No	No	06	SURG	ANAL & STOMAL PROCEDURES W CC	1.4000	3.6	4.7	$8,400.00	1.4123	3.7	4.8	$8,473.80	($73.80)
349	No	No	06	SURG	ANAL & STOMAL PROCEDURES W/O CC/MCC	0.9497	2.1	2.6	$5,698.20	1.0148	2.5	3.0	$6,088.80	($390.60)
350	No	No	06	SURG	INGUINAL & FEMORAL HERNIA PROCEDURES W MCC	2.4465	5.1	6.9	$14,679.00	2.4607	5.2	7.1	$14,764.20	($85.20)
351	No	No	06	SURG	INGUINAL & FEMORAL HERNIA PROCEDURES W CC	1.5001	3.4	4.1	$9,000.60	1.4892	3.4	4.3	$8,935.20	$65.40
352	No	No	06	SURG	INGUINAL & FEMORAL HERNIA PROCEDURES W/O CC/MCC	1.0535	2.1	2.5	$6,321.00	1.0374	2.1	2.5	$6,224.40	$96.60
353	No	No	06	SURG	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL W MCC	2.9659	6.0	7.8	$17,795.40	3.0099	6.2	8.1	$18,059.40	($264.00)
354	No	No	06	SURG	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL W CC	1.7310	3.8	4.7	$10,386.00	1.7238	3.9	4.8	$10,342.80	$43.20
355	No	No	06	SURG	HERNIA PROCEDURES EXCEPT INGUINAL & FEMORAL W/O CC/MCC	1.3548	2.5	3.0	$8,128.80	1.3206	2.6	3.1	$7,923.60	$205.20
356	Yes	No	06	SURG	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W MCC	3.9757	7.8	10.3	$23,854.20	3.8061	7.8	10.5	$22,836.60	$1,017.60
357	Yes	No	06	SURG	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W CC	2.1367	4.7	5.9	$12,820.20	2.1000	4.8	6.1	$12,600.00	$220.20
358	Yes	No	06	SURG	OTHER DIGESTIVE SYSTEM O.R. PROCEDURES W/O CC/MCC	1.3483	2.8	3.5	$8,089.80	1.4085	2.9	3.7	$8,451.00	($361.20)
368	No	No	06	MED	MAJOR ESOPHAGEAL DISORDERS W MCC	1.9440	4.7	6.2	$11,664.00	1.8372	4.6	6.1	$11,023.20	$640.80
369	No	No	06	MED	MAJOR ESOPHAGEAL DISORDERS W CC	1.1088	3.2	3.9	$6,652.80	1.0878	3.2	3.9	$6,526.80	$126.00
370	No	No	06	MED	MAJOR ESOPHAGEAL DISORDERS W/O CC/MCC	0.7433	2.2	2.8	$4,459.80	0.7470	2.3	2.8	$4,482.00	($22.20)
371	Yes	No	06	MED	MAJOR GASTROINTESTINAL DISORDERS & PERITONEAL INFECTIONS W MCC	1.7388	5.4	7.0	$10,432.80	1.7244	5.5	7.1	$10,346.40	$86.40
372	Yes	No	06	MED	MAJOR GASTROINTESTINAL DISORDERS & PERITONEAL INFECTIONS W CC	1.0384	4.0	4.9	$6,230.40	1.0590	4.1	5.0	$6,354.00	($123.60)

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
373	Yes	No	06	MED	MAJOR GASTROINTESTINAL DISORDERS & PERITONEAL INFECTIONS W/O CC/MCC	0.7576	3.1	3.7	$4,545.60	0.7622	3.2	3.8	$4,573.20	($27.60)
374	Yes	No	06	MED	DIGESTIVE MALIGNANCY W MCC	2.0650	5.6	7.5	$12,390.00	2.0014	5.6	7.6	$12,008.40	$381.60
375	Yes	No	06	MED	DIGESTIVE MALIGNANCY W CC	1.2067	3.7	4.8	$7,240.20	1.2347	3.8	5.0	$7,408.20	($168.00)
376	Yes	No	06	MED	DIGESTIVE MALIGNANCY W/O CC/MCC	0.9157	2.5	3.1	$5,494.20	0.9401	2.6	3.2	$5,640.60	($146.40)
377	Yes	No	06	MED	G.I. HEMORRHAGE W MCC	1.7888	4.5	5.7	$10,732.80	1.7140	4.5	5.7	$10,284.00	$448.80
378	Yes	No	06	MED	G.I. HEMORRHAGE W CC	0.9903	3.0	3.6	$5,941.80	0.9703	3.1	3.6	$5,821.80	$120.00
379	Yes	No	06	MED	G.I. HEMORRHAGE W/O CC/MCC	0.6532	2.1	2.5	$3,919.20	0.6446	2.2	2.5	$3,867.60	$51.60
380	Yes	No	06	MED	COMPLICATED PEPTIC ULCER W MCC	1.9460	5.1	6.6	$11,676.00	1.8968	5.1	6.7	$11,380.80	$295.20
381	Yes	No	06	MED	COMPLICATED PEPTIC ULCER W CC	1.0950	3.3	4.0	$6,570.00	1.0781	3.4	4.1	$6,468.60	$101.40
382	Yes	No	06	MED	COMPLICATED PEPTIC ULCER W/O CC/MCC	0.7678	2.5	2.9	$4,606.80	0.8032	2.5	3.0	$4,819.20	($212.40)
383	No	No	06	MED	UNCOMPLICATED PEPTIC ULCER W MCC	1.3510	4.0	5.0	$8,106.00	1.3448	3.9	5.0	$8,068.80	$37.20
384	No	No	06	MED	UNCOMPLICATED PEPTIC ULCER W/O MCC	0.8553	2.6	3.2	$5,131.80	0.8765	2.7	3.3	$5,259.00	($127.20)
385	No	No	06	MED	INFLAMMATORY BOWEL DISEASE W MCC	1.6979	5.3	7.3	$10,187.40	1.6533	5.4	7.2	$9,919.80	$267.60
386	No	No	06	MED	INFLAMMATORY BOWEL DISEASE W CC	0.9801	3.5	4.4	$5,880.60	0.9619	3.6	4.4	$5,771.40	$109.20
387	No	No	06	MED	INFLAMMATORY BOWEL DISEASE W/O CC/MCC	0.6967	2.8	3.3	$4,180.20	0.7348	2.8	3.4	$4,408.80	($228.60)
388	Yes	No	06	MED	G.I. OBSTRUCTION W MCC	1.5307	4.8	6.4	$9,184.20	1.5239	4.9	6.4	$9,143.40	$40.80
389	Yes	No	06	MED	G.I. OBSTRUCTION W CC	0.8432	3.3	4.0	$5,059.20	0.8536	3.4	4.1	$5,121.60	($62.40)
390	Yes	No	06	MED	G.I. OBSTRUCTION W/O CC/MCC	0.5910	2.5	2.9	$3,546.00	0.5966	2.6	3.0	$3,579.60	($33.60)
391	No	No	06	MED	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS W MCC	1.2215	3.7	4.9	$7,329.00	1.2350	3.8	5.0	$7,410.00	($81.00)
392	No	No	06	MED	ESOPHAGITIS, GASTROENT & MISC DIGEST DISORDERS W/O MCC	0.7554	2.6	3.2	$4,532.40	0.7593	2.7	3.3	$4,555.80	($23.40)
393	No	No	06	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES W MCC	1.6326	4.4	6.1	$9,795.60	1.6408	4.6	6.3	$9,844.80	($49.20)
394	No	No	06	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES W CC	0.9411	3.1	4.0	$5,646.60	0.9431	3.2	4.1	$5,658.60	($12.00)
395	No	No	06	MED	OTHER DIGESTIVE SYSTEM DIAGNOSES W/O CC/MCC	0.6765	2.3	2.8	$4,059.00	0.6746	2.4	2.9	$4,047.60	$11.40
405	Yes	No	07	SURG	PANCREAS, LIVER & SHUNT PROCEDURES W MCC	5.3791	9.6	12.8	$32,274.60	5.2874	9.9	13.1	$31,724.40	$550.20
406	Yes	No	07	SURG	PANCREAS, LIVER & SHUNT PROCEDURES W CC	2.8326	5.6	7.0	$16,995.60	2.7958	5.7	7.1	$16,774.80	$220.80
407	Yes	No	07	SURG	PANCREAS, LIVER & SHUNT PROCEDURES W/O CC/MCC	2.0068	3.8	4.5	$12,040.80	2.0185	4.1	4.8	$12,111.00	($70.20)
408	No	No	07	SURG	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W MCC	4.0465	9.2	11.9	$24,279.00	3.9469	9.2	11.8	$23,681.40	$597.60
409	No	No	07	SURG	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W CC	2.3227	5.6	6.9	$13,936.20	2.3305	6.0	7.2	$13,983.00	($46.80)
410	No	No	07	SURG	BILIARY TRACT PROC EXCEPT ONLY CHOLECYST W OR W/O C.D.E. W/O CC/MCC	1.6526	3.7	4.5	$9,915.60	1.7283	4.2	4.8	$10,369.80	($454.20)
411	No	No	07	SURG	CHOLECYSTECTOMY W C.D.E. W MCC	3.9981	8.3	11.1	$23,988.60	3.2984	7.8	9.5	$19,790.40	$4,198.20
412	No	No	07	SURG	CHOLECYSTECTOMY W C.D.E. W CC	2.3819	5.5	6.5	$14,291.40	2.3743	5.5	6.7	$14,245.80	$45.60

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
413	No	No	07	SURG	CHOLECYSTECTOMY W C.D.E. W/O CC/MCC	1.6862	3.5	4.3	$10,117.20	1.6865	3.6	4.3	$10,119.00	($1.80)
414	Yes	No	07	SURG	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W MCC	3.5772	8.0	9.8	$21,463.20	3.5468	8.1	10.0	$21,280.80	$182.40
415	Yes	No	07	SURG	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W CC	2.0188	5.2	6.1	$12,112.80	2.0210	5.3	6.2	$12,126.00	($13.20)
416	Yes	No	07	SURG	CHOLECYSTECTOMY EXCEPT BY LAPAROSCOPE W/O C.D.E. W/O CC/MCC	1.3931	3.2	3.8	$8,358.60	1.4023	3.4	3.9	$8,413.80	($55.20)
417	No	No	07	SURG	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W MCC	2.4234	5.4	6.7	$14,540.40	2.3912	5.4	6.7	$14,347.20	$193.20
418	No	No	07	SURG	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W CC	1.6642	3.7	4.4	$9,985.20	1.6662	3.8	4.5	$9,997.20	($12.00)
419	No	No	07	SURG	LAPAROSCOPIC CHOLECYSTECTOMY W/O C.D.E. W/O CC/MCC	1.3042	2.5	2.9	$7,825.20	1.3052	2.5	3.0	$7,831.20	($6.00)
420	No	No	07	SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURES W MCC	3.5176	7.7	10.5	$21,105.60	4.0583	8.1	11.5	$24,349.80	($3,244.20)
421	No	No	07	SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURES W CC	1.7791	4.1	5.4	$10,674.60	1.8838	4.2	5.6	$11,302.80	($628.20)
422	No	No	07	SURG	HEPATOBILIARY DIAGNOSTIC PROCEDURES W/O CC/MCC	1.5076	2.8	3.4	$9,045.60	1.5569	3.1	3.8	$9,341.40	($295.80)
423	No	No	07	SURG	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W MCC	3.9460	8.6	12.3	$23,676.00	3.7870	8.5	11.6	$22,722.00	$954.00
424	No	No	07	SURG	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W CC	2.1911	5.6	7.4	$13,146.60	2.2354	5.9	7.7	$13,412.40	($265.80)
425	No	No	07	SURG	OTHER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES W/O CC/MCC	1.4929	3.4	4.1	$8,957.40	1.6028	3.6	4.3	$9,616.80	($659.40)
432	No	No	07	MED	CIRRHOSIS & ALCOHOLIC HEPATITIS W MCC	1.8260	4.7	6.4	$10,956.00	1.8004	4.8	6.5	$10,802.40	$153.60
433	No	No	07	MED	CIRRHOSIS & ALCOHOLIC HEPATITIS W CC	1.0279	3.3	4.2	$6,167.40	1.0214	3.4	4.3	$6,128.40	$39.00
434	No	No	07	MED	CIRRHOSIS & ALCOHOLIC HEPATITIS W/O CC/MCC	0.6511	2.3	2.8	$3,906.60	0.6282	2.3	2.7	$3,769.20	$137.40
435	No	No	07	MED	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS W MCC	1.6977	4.8	6.3	$10,186.20	1.6702	4.9	6.4	$10,021.20	$165.00
436	No	No	07	MED	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS W CC	1.1359	3.5	4.5	$6,815.40	1.1354	3.6	4.7	$6,812.40	$3.00
437	No	No	07	MED	MALIGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS W/O CC/MCC	0.8658	2.4	3.1	$5,194.80	0.9093	2.6	3.3	$5,455.80	($261.00)
438	No	No	07	MED	DISORDERS OF PANCREAS EXCEPT MALIGNANCY W MCC	1.6382	4.6	6.3	$9,829.20	1.6593	4.8	6.5	$9,955.80	($126.60)
439	No	No	07	MED	DISORDERS OF PANCREAS EXCEPT MALIGNANCY W CC	0.8623	3.2	4.0	$5,173.80	0.8741	3.3	4.1	$5,244.60	($70.80)
440	No	No	07	MED	DISORDERS OF PANCREAS EXCEPT MALIGNANCY W/O CC/MCC	0.6213	2.5	2.9	$3,727.80	0.6381	2.5	3.0	$3,828.60	($100.80)
441	Yes	No	07	MED	DISORDERS OF LIVER EXCEPT MALIG,CIRR,ALC HEPA W MCC	1.8572	4.7	6.5	$11,143.20	1.8159	4.7	6.5	$10,895.40	$247.80
442	Yes	No	07	MED	DISORDERS OF LIVER EXCEPT MALIG,CIRR,ALC HEPA W CC	0.9389	3.2	4.1	$5,633.40	0.9394	3.3	4.1	$5,636.40	($3.00)
443	Yes	No	07	MED	DISORDERS OF LIVER EXCEPT MALIG,CIRR,ALC HEPA W/O CC/MCC	0.6958	2.5	3.0	$4,174.80	0.6787	2.5	3.0	$4,072.20	$102.60
444	No	No	07	MED	DISORDERS OF THE BILIARY TRACT W MCC	1.6109	4.4	5.7	$9,665.40	1.5997	4.4	5.8	$9,598.20	$67.20

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
445	No	No	07	MED	DISORDERS OF THE BILIARY TRACT W CC	1.0676	3.2	3.9	$6,405.60	1.0581	3.2	3.9	$6,348.60	$57.00
446	No	No	07	MED	DISORDERS OF THE BILIARY TRACT W/O CC/MCC	0.7950	2.3	2.7	$4,770.00	0.7916	2.3	2.8	$4,749.60	$20.40
453	No	No	08	SURG	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W MCC	9.4969	7.6	9.7	$56,981.40	9.7411	7.6	9.8	$58,446.60	($1,465.20)
454	No	No	08	SURG	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W CC	6.3368	4.0	4.7	$38,020.80	6.4968	4.1	4.8	$38,980.80	($960.00)
455	No	No	08	SURG	COMBINED ANTERIOR/POSTERIOR SPINAL FUSION W/O CC/MCC	5.0000	2.6	3.0	$30,000.00	5.0782	2.7	3.1	$30,469.20	($469.20)
456	No	No	08	SURG	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS W MCC	9.1252	9.5	11.6	$54,751.20	9.2044	9.6	11.7	$55,226.40	($475.20)
457	No	No	08	SURG	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS W CC	6.5446	5.3	6.1	$39,267.60	6.8062	5.4	6.4	$40,837.20	($1,569.60)
458	No	No	08	SURG	SPINAL FUS EXC CERV W SPINAL CURV/MALIG/INFEC OR EXT FUS W/O CC/MCC	5.1212	3.2	3.6	$30,727.20	5.3657	3.2	3.7	$32,194.20	($1,467.00)
459	Yes	No	08	SURG	SPINAL FUSION EXCEPT CERVICAL W MCC	6.3848	6.3	7.9	$38,308.80	6.0381	5.8	7.4	$36,228.60	$2,080.20
460	Yes	No	08	SURG	SPINAL FUSION EXCEPT CERVICAL W/O MCC	4.0375	2.9	3.4	$24,225.00	4.0149	2.9	3.4	$24,089.40	$135.60
461	No	No	08	SURG	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY W MCC	4.4825	5.6	6.7	$26,895.00	4.8925	6.1	7.8	$29,355.00	($2,460.00)
462	No	No	08	SURG	BILATERAL OR MULTIPLE MAJOR JOINT PROCS OF LOWER EXTREMITY W/O MCC	3.1941	2.9	3.2	$19,164.60	3.2640	3.0	3.2	$19,584.00	($419.40)
463	Yes	No	08	SURG	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W MCC	5.1319	9.8	13.0	$30,791.40	5.0171	9.8	13.1	$30,102.60	$688.80
464	Yes	No	08	SURG	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W CC	2.9440	5.5	7.0	$17,664.00	2.8438	5.5	7.0	$17,062.80	$601.20
465	Yes	No	08	SURG	WND DEBRID & SKN GRFT EXC HAND, FOR MUSCULO-CONN TISS DIS W/O CC/MCC	1.8374	2.7	3.5	$11,024.40	1.8815	2.9	3.7	$11,289.00	($264.60)
466	Yes	No	08	SURG	REVISION OF HIP OR KNEE REPLACEMENT W MCC	5.1132	6.6	8.3	$30,679.20	5.0430	6.7	8.3	$30,258.00	$421.20
467	Yes	No	08	SURG	REVISION OF HIP OR KNEE REPLACEMENT W CC	3.4704	3.4	4.1	$20,822.40	3.4778	3.5	4.2	$20,866.80	($44.40)
468	Yes	No	08	SURG	REVISION OF HIP OR KNEE REPLACEMENT W/O CC/MCC	2.7914	2.2	2.5	$16,748.40	2.8170	2.4	2.7	$16,902.00	($153.60)
469	Yes	No	08	SURG	MAJOR HIP AND KNEE JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W MCC OR TOTAL ANKLE REPLACEMENT	3.1742	4.9	6.2	$19,045.20	3.2010	5.1	6.3	$19,206.00	($160.80)
470	Yes	No	08	SURG	MAJOR HIP AND KNEE JOINT REPLACEMENT OR REATTACHMENT OF LOWER EXTREMITY W/O MCC	1.9898	2.2	2.5	$11,938.80	2.0543	2.4	2.7	$12,325.80	($387.00)
471	No	No	08	SURG	CERVICAL SPINAL FUSION W MCC	5.0107	6.3	8.6	$30,064.20	4.9187	6.2	8.6	$29,512.20	$552.00
472	No	No	08	SURG	CERVICAL SPINAL FUSION W CC	2.9468	2.4	3.2	$17,680.80	2.8534	2.2	3.1	$17,120.40	$560.40
473	No	No	08	SURG	CERVICAL SPINAL FUSION W/O CC/MCC	2.3729	1.5	1.8	$14,237.40	2.2916	1.4	1.7	$13,749.60	$487.80

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
474	Yes	No	08	SURG	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W MCC	3.7951	8.9	11.1	$22,770.60	3.8630	9.0	11.5	$23,178.00	($407.40)
475	Yes	No	08	SURG	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W CC	2.1488	5.8	7.1	$12,892.80	2.1526	5.8	7.2	$12,915.60	($22.80)
476	Yes	No	08	SURG	AMPUTATION FOR MUSCULOSKELETAL SYS & CONN TISSUE DIS W/O CC/MCC	1.1507	3.1	4.0	$6,904.20	1.1681	3.1	3.9	$7,008.60	($104.40)
477	Yes	Yes	08	SURG	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W MCC	3.1384	8.2	10.2	$18,830.40	3.2332	8.2	10.6	$19,399.20	($568.80)
478	Yes	Yes	08	SURG	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W CC	2.2792	5.3	6.6	$13,675.20	2.2386	5.4	6.6	$13,431.60	$243.60
479	Yes	Yes	08	SURG	BIOPSIES OF MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W/O CC/MCC	1.7980	3.4	4.2	$10,788.00	1.7667	3.4	4.3	$10,600.20	$187.80
480	Yes	Yes	08	SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT W MCC	3.0304	6.4	7.5	$18,182.40	3.0199	6.5	7.6	$18,119.40	$63.00
481	Yes	Yes	08	SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT W CC	2.0623	4.4	4.8	$12,373.80	2.0501	4.5	4.9	$12,300.60	$73.20
482	Yes	Yes	08	SURG	HIP & FEMUR PROCEDURES EXCEPT MAJOR JOINT W/O CC/MCC	1.6645	3.5	3.7	$9,987.00	1.6692	3.6	3.8	$10,015.20	($28.20)
483	No	No	08	SURG	MAJOR JOINT/LIMB REATTACHMENT PROCEDURE OF UPPER EXTREMITIES	2.3835	1.6	1.9	$14,301.00	2.4267	1.7	2.0	$14,560.20	($259.20)
485	No	No	08	SURG	KNEE PROCEDURES W PDX OF INFECTION W MCC	3.3041	8.0	9.6	$19,824.60	3.2534	8.2	9.9	$19,520.40	$304.20
486	No	No	08	SURG	KNEE PROCEDURES W PDX OF INFECTION W CC	2.2184	5.3	6.3	$13,310.40	2.2224	5.3	6.2	$13,334.40	($24.00)
487	No	No	08	SURG	KNEE PROCEDURES W PDX OF INFECTION W/O CC/MCC	1.6502	3.7	4.2	$9,901.20	1.6595	3.9	4.3	$9,957.00	($55.80)
488	Yes	No	08	SURG	KNEE PROCEDURES W/O PDX OF INFECTION W CC/MCC	2.1125	3.8	5.0	$12,675.00	1.9965	3.8	5.0	$11,979.00	$696.00
489	Yes	No	08	SURG	KNEE PROCEDURES W/O PDX OF INFECTION W/O CC/MCC	1.2974	2.1	2.5	$7,784.40	1.2876	2.2	2.6	$7,725.60	$58.80
492	Yes	Yes	08	SURG	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR W MCC	3.3905	6.1	7.7	$20,343.00	3.3008	6.2	7.7	$19,804.80	$538.20
493	Yes	Yes	08	SURG	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR W CC	2.2461	4.0	4.8	$13,476.60	2.2036	4.0	4.8	$13,221.60	$255.00
494	Yes	Yes	08	SURG	LOWER EXTREM & HUMER PROC EXCEPT HIP,FOOT,FEMUR W/O CC/MCC	1.7539	2.7	3.2	$10,523.40	1.7562	2.7	3.2	$10,537.20	($13.80)
495	Yes	Yes	08	SURG	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W MCC	3.4623	7.3	9.8	$20,773.80	3.0121	6.5	8.7	$18,072.60	$2,701.20
496	Yes	Yes	08	SURG	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W CC	1.9609	3.5	4.5	$11,765.40	1.9746	3.5	4.5	$11,847.60	($82.20)
497	Yes	Yes	08	SURG	LOCAL EXCISION & REMOVAL INT FIX DEVICES EXC HIP & FEMUR W/O CC/MCC	1.4350	1.9	2.4	$8,610.00	1.3874	1.8	2.2	$8,324.40	$285.60
498	No	No	08	SURG	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR W CC/MCC	2.2780	5.1	6.8	$13,668.00	2.4290	5.3	7.1	$14,574.00	($906.00)

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
499	No	No	08	SURG	LOCAL EXCISION & REMOVAL INT FIX DEVICES OF HIP & FEMUR W/O CC/MCC	1.1192	2.1	2.6	$6,715.20	1.2418	2.2	2.8	$7,450.80	($735.60)
500	Yes	Yes	08	SURG	SOFT TISSUE PROCEDURES W MCC	3.0680	7.3	9.7	$18,408.00	2.9592	7.0	9.4	$17,755.20	$652.80
501	Yes	Yes	08	SURG	SOFT TISSUE PROCEDURES W CC	1.6874	4.2	5.2	$10,124.40	1.6893	4.3	5.4	$10,135.80	($11.40)
502	Yes	Yes	08	SURG	SOFT TISSUE PROCEDURES W/O CC/MCC	1.2911	2.5	3.0	$7,746.60	1.2637	2.5	3.0	$7,582.20	$164.40
503	No	No	08	SURG	FOOT PROCEDURES W MCC	2.5622	6.8	8.5	$15,373.20	2.4875	6.7	8.4	$14,925.00	$448.20
504	No	No	08	SURG	FOOT PROCEDURES W CC	1.7295	4.8	5.8	$10,377.00	1.7241	4.9	5.8	$10,344.60	$32.40
505	No	No	08	SURG	FOOT PROCEDURES W/O CC/MCC	1.5798	2.8	3.4	$9,478.80	1.5252	3.0	3.6	$9,151.20	$327.60
506	No	No	08	SURG	MAJOR THUMB OR JOINT PROCEDURES	1.4103	3.8	4.8	$8,461.80	1.3793	3.7	4.6	$8,275.80	$186.00
507	No	No	08	SURG	MAJOR SHOULDER OR ELBOW JOINT PROCEDURES W CC/MCC	1.9425	4.5	5.9	$11,655.00	1.8771	4.3	5.5	$11,262.60	$392.40
508	No	No	08	SURG	MAJOR SHOULDER OR ELBOW JOINT PROCEDURES W/O CC/MCC	1.4474	2.1	2.6	$8,684.40	1.5335	2.1	2.6	$9,201.00	($516.60)
509	No	No	08	SURG	ARTHROSCOPY	1.6703	4.4	5.6	$10,021.80	1.8321	3.9	4.9	$10,992.60	($970.80)
510	Yes	No	08	SURG	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W MCC	2.7324	5.0	6.3	$16,394.40	2.4879	4.9	6.0	$14,927.40	$1,467.00
511	Yes	No	08	SURG	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W CC	1.8473	3.4	4.0	$11,083.80	1.7860	3.4	3.9	$10,716.00	$367.80
512	Yes	No	08	SURG	SHOULDER,ELBOW OR FOREARM PROC,EXC MAJOR JOINT PROC W/O CC/MCC	1.5221	2.2	2.5	$9,132.60	1.4960	2.3	2.6	$8,976.00	$156.60
513	No	No	08	SURG	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC W CC/MCC	1.6396	4.1	5.3	$9,837.60	1.5871	4.2	5.5	$9,522.60	$315.00
514	No	No	08	SURG	HAND OR WRIST PROC, EXCEPT MAJOR THUMB OR JOINT PROC W/O CC/MCC	0.9998	2.3	2.9	$5,998.80	1.0192	2.4	2.9	$6,115.20	($116.40)
515	Yes	Yes	08	SURG	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W MCC	3.0820	6.4	8.3	$18,492.00	2.9195	6.3	8.1	$17,517.00	$975.00
516	Yes	Yes	08	SURG	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W CC	1.8854	3.8	4.7	$11,312.40	1.8820	3.9	4.8	$11,292.00	$20.40
517	Yes	Yes	08	SURG	OTHER MUSCULOSKELET SYS & CONN TISS O.R. PROC W/O CC/MCC	1.3809	2.2	2.7	$8,285.40	1.4361	2.2	2.7	$8,616.48	($331.08)
518	Yes	Yes	08	SURG	BACK & NECK PROC EXC SPINAL FUSION W MCC OR DISC DEVICE/ NEUROSTIM	3.1002	3.4	5.4	$18,601.20	2.8930	3.2	5.1	$17,358.00	$1,243.20
519	Yes	Yes	08	SURG	BACK & NECK PROC EXC SPINAL FUSION W CC	1.8620	3.1	4.0	$11,172.00	1.8038	3.2	4.1	$10,822.80	$349.20
520	Yes	Yes	08	SURG	BACK & NECK PROC EXC SPINAL FUSION W/O CC/MCC	1.3141	1.9	2.3	$7,884.60	1.2966	1.9	2.4	$7,779.60	$105.00
533	Yes	No	08	MED	FRACTURES OF FEMUR W MCC	1.5305	4.2	5.7	$9,183.00	1.4380	4.3	5.7	$8,628.00	$555.00
534	Yes	No	08	MED	FRACTURES OF FEMUR W/O MCC	0.7755	2.9	3.5	$4,653.00	0.7609	2.9	3.5	$4,565.40	$87.60
535	Yes	No	08	MED	FRACTURES OF HIP & PELVIS W MCC	1.2548	3.8	4.9	$7,528.80	1.2568	3.9	5.0	$7,540.80	($12.00)
536	Yes	No	08	MED	FRACTURES OF HIP & PELVIS W/O MCC	0.7570	2.9	3.4	$4,542.00	0.7545	3.0	3.4	$4,527.00	$15.00

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
537	No	No	08	MED	SPRAINS, STRAINS, & DISLOCATIONS OF HIP, PELVIS & THIGH W CC/ MCC	0.9105	3.1	3.7	$5,463.00	0.9680	3.3	4.1	$5,808.00	($345.00)
538	No	No	08	MED	SPRAINS, STRAINS, & DISLOCATIONS OF HIP, PELVIS & THIGH W/O CC/ MCC	0.7270	2.5	2.9	$4,362.00	0.6766	2.5	2.9	$4,059.60	$302.40
539	Yes	No	08	MED	OSTEOMYELITIS W MCC	2.0192	6.1	8.2	$12,115.20	1.8848	5.9	7.8	$11,308.80	$806.40
540	Yes	No	08	MED	OSTEOMYELITIS W CC	1.2969	4.5	5.7	$7,781.40	1.2914	4.5	5.7	$7,748.40	$33.00
541	Yes	No	08	MED	OSTEOMYELITIS W/O CC/ MCC	0.8827	3.2	4.0	$5,296.20	0.9451	3.3	4.3	$5,670.60	($374.40)
542	Yes	No	08	MED	PATHOLOGICAL FRACTURES & MUSCULOSKELET & CONN TISS MALIG W MCC	1.8253	5.2	6.9	$10,951.80	1.8104	5.3	7.0	$10,862.40	$89.40
543	Yes	No	08	MED	PATHOLOGICAL FRACTURES & MUSCULOSKELET & CONN TISS MALIG W CC	1.0725	3.7	4.6	$6,435.00	1.0798	3.7	4.6	$6,478.80	($43.80)
544	Yes	No	08	MED	PATHOLOGICAL FRACTURES & MUSCULOSKELET & CONN TISS MALIG W/O CC/MCC	0.7984	2.8	3.3	$4,790.40	0.7758	3.0	3.4	$4,654.80	$135.60
545	Yes	No	08	MED	CONNECTIVE TISSUE DISORDERS W MCC	2.4791	5.6	8.0	$14,874.60	2.3634	5.8	8.1	$14,180.40	$694.20
546	Yes	No	08	MED	CONNECTIVE TISSUE DISORDERS W CC	1.2144	3.6	4.6	$7,286.40	1.1268	3.6	4.6	$6,760.80	$525.60
547	Yes	No	08	MED	CONNECTIVE TISSUE DISORDERS W/O CC/MCC	0.8576	2.7	3.3	$5,145.60	0.8152	2.6	3.2	$4,891.20	$254.40
548	No	No	08	MED	SEPTIC ARTHRITIS W MCC	2.0672	6.1	7.8	$12,403.20	2.0384	6.0	7.9	$12,230.40	$172.80
549	No	No	08	MED	SEPTIC ARTHRITIS W CC	1.2442	4.1	5.1	$7,465.20	1.1946	4.1	5.0	$7,167.60	$297.60
550	No	No	08	MED	SEPTIC ARTHRITIS W/O CC/MCC	0.9238	3.0	3.6	$5,542.80	0.9006	3.0	3.6	$5,403.60	$139.20
551	Yes	No	08	MED	MEDICAL BACK PROBLEMS W MCC	1.5916	4.4	5.7	$9,549.60	1.5533	4.5	5.8	$9,319.80	$229.80
552	Yes	No	08	MED	MEDICAL BACK PROBLEMS W/O MCC	0.9010	3.0	3.6	$5,406.00	0.8938	3.0	3.7	$5,362.80	$43.20
553	No	No	08	MED	BONE DISEASES & ARTHROPATHIES W MCC	1.2376	3.9	5.0	$7,425.60	1.2891	4.0	5.2	$7,734.60	($309.00)
554	No	No	08	MED	BONE DISEASES & ARTHROPATHIES W/O MCC	0.7569	2.8	3.4	$4,541.40	0.7516	2.8	3.4	$4,509.60	$31.80
555	No	No	08	MED	SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONN TISSUE W MCC	1.2792	3.7	5.0	$7,675.20	1.2719	3.8	5.1	$7,631.40	$43.80
556	No	No	08	MED	SIGNS & SYMPTOMS OF MUSCULOSKELETAL SYSTEM & CONN TISSUE W/O MCC	0.7677	2.7	3.3	$4,606.20	0.7790	2.7	3.4	$4,674.00	($67.80)
557	Yes	No	08	MED	TENDONITIS, MYOSITIS & BURSITIS W MCC	1.4324	4.6	5.7	$8,594.40	1.4432	4.6	5.7	$8,659.20	($64.80)
558	Yes	No	08	MED	TENDONITIS, MYOSITIS & BURSITIS W/O MCC	0.8635	3.2	3.8	$5,181.00	0.8566	3.2	3.8	$5,139.60	$41.40
559	Yes	No	08	MED	AFTERCARE, MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W MCC	1.7987	4.8	6.6	$10,792.20	1.6813	4.7	6.3	$10,087.80	$704.40
560	Yes	No	08	MED	AFTERCARE, MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W CC	1.0217	3.6	4.6	$6,130.20	1.0772	3.8	4.8	$6,463.20	($333.00)
561	Yes	No	08	MED	AFTERCARE, MUSCULOSKELETAL SYSTEM & CONNECTIVE TISSUE W/O CC/MCC	0.7561	2.7	3.5	$4,536.60	0.7611	2.6	3.4	$4,566.60	($30.00)
562	Yes	No	08	MED	FX, SPRN, STRN & DISL EXCEPT FEMUR, HIP, PELVIS & THIGH W MCC	1.4081	4.1	5.2	$8,448.60	1.3819	4.1	5.2	$8,291.40	$157.20
563	Yes	No	08	MED	FX, SPRN, STRN & DISL EXCEPT FEMUR, HIP, PELVIS & THIGH W/O MCC	0.8381	3.0	3.4	$5,028.60	0.8235	3.0	3.4	$4,941.00	$87.60

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	FY 2019								FY 2018					
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
564	No	No	08	MED	OTHER MUSCULOSKELETAL SYS & CONNECTIVE TISSUE DIAGNOSES W MCC	1.5722	4.7	6.1	$9,433.20	1.4630	4.7	5.9	$8,778.00	$655.20
565	No	No	08	MED	OTHER MUSCULOSKELETAL SYS & CONNECTIVE TISSUE DIAGNOSES W CC	0.9758	3.4	4.1	$5,854.80	0.9527	3.5	4.1	$5,716.20	$138.60
566	No	No	08	MED	OTHER MUSCULOSKELETAL SYS & CONNECTIVE TISSUE DIAGNOSES W/O CC/MCC	0.7623	2.6	3.2	$4,573.80	0.7769	2.6	3.1	$4,661.40	($87.60)
570	Yes	No	09	SURG	SKIN DEBRIDEMENT W MCC	3.0347	7.6	10.2	$18,208.20	2.5948	7.0	9.1	$15,568.80	$2,639.40
571	Yes	No	09	SURG	SKIN DEBRIDEMENT W CC	1.7029	5.2	6.5	$10,217.40	1.6287	5.0	6.1	$9,772.20	$445.20
572	Yes	No	09	SURG	SKIN DEBRIDEMENT W/O CC/MCC	1.1786	3.4	4.2	$7,071.60	1.1756	3.5	4.3	$7,053.60	$18.00
573	Yes	No	09	SURG	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS W MCC	5.2515	10.7	15.3	$31,509.00	4.0635	8.8	12.8	$24,381.00	$7,128.00
574	Yes	No	09	SURG	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS W CC	3.0459	7.5	10.4	$18,275.40	2.9594	7.3	9.4	$17,756.40	$519.00
575	Yes	No	09	SURG	SKIN GRAFT FOR SKIN ULCER OR CELLULITIS W/O CC/MCC	1.7586	4.8	6.0	$10,551.60	1.7419	4.5	5.6	$10,451.40	$100.20
576	No	No	09	SURG	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS W MCC	4.8807	8.4	12.8	$29,284.20	4.5329	9.0	12.9	$27,197.40	$2,086.80
577	No	No	09	SURG	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS W CC	2.5092	4.7	6.9	$15,055.20	2.4425	4.7	6.9	$14,655.00	$400.20
578	No	No	09	SURG	SKIN GRAFT EXC FOR SKIN ULCER OR CELLULITIS W/O CC/MCC	1.5297	2.7	3.5	$9,178.20	1.4892	2.7	3.7	$8,935.20	$243.00
579	Yes	No	09	SURG	OTHER SKIN, SUBCUT TISS & BREAST PROC W MCC	2.7978	6.5	8.8	$16,786.80	2.6606	6.6	8.9	$15,963.60	$823.20
580	Yes	No	09	SURG	OTHER SKIN, SUBCUT TISS & BREAST PROC W CC	1.5898	4.1	5.3	$9,538.80	1.5558	3.9	5.0	$9,334.80	$204.00
581	Yes	No	09	SURG	OTHER SKIN, SUBCUT TISS & BREAST PROC W/O CC/MCC	1.2364	2.4	3.0	$7,418.40	1.2240	2.4	3.0	$7,344.00	$74.40
582	No	No	09	SURG	MASTECTOMY FOR MALIGNANCY W CC/MCC	1.5695	2.4	3.4	$9,417.00	1.4821	2.3	3.1	$8,892.60	$524.40
583	No	No	09	SURG	MASTECTOMY FOR MALIGNANCY W/O CC/MCC	1.3781	1.7	2.0	$8,268.60	1.3551	1.8	2.0	$8,130.60	$138.00
584	No	No	09	SURG	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES W CC/MCC	1.8714	3.6	4.7	$11,228.40	1.8558	3.7	4.9	$11,134.80	$93.60
585	No	No	09	SURG	BREAST BIOPSY, LOCAL EXCISION & OTHER BREAST PROCEDURES W/O CC/MCC	1.5657	2.2	2.7	$9,394.20	1.5922	2.2	2.7	$9,553.20	($159.00)
592	Yes	No	09	MED	SKIN ULCERS W MCC	1.7082	5.4	7.1	$10,249.20	1.4818	5.0	6.6	$8,890.80	$1,358.40
593	Yes	No	09	MED	SKIN ULCERS W CC	1.1294	4.2	5.3	$6,776.40	1.0459	4.0	4.9	$6,275.40	$501.00
594	Yes	No	09	MED	SKIN ULCERS W/O CC/MCC	0.8102	3.2	3.9	$4,861.20	0.7584	3.0	3.7	$4,550.40	$310.80
595	No	No	09	MED	MAJOR SKIN DISORDERS W MCC	1.9869	5.2	7.1	$11,921.40	2.1190	5.5	7.5	$12,714.00	($792.60)
596	No	No	09	MED	MAJOR SKIN DISORDERS W/O MCC	1.0115	3.5	4.4	$6,069.00	0.9791	3.5	4.4	$5,874.60	$194.40
597	No	No	09	MED	MALIGNANT BREAST DISORDERS W MCC	1.7200	4.9	6.6	$10,320.00	1.8033	5.2	7.0	$10,819.80	($499.80)
598	No	No	09	MED	MALIGNANT BREAST DISORDERS W CC	1.1623	3.5	4.7	$6,973.80	1.0874	3.5	4.5	$6,524.40	$449.40
599	No	No	09	MED	MALIGNANT BREAST DISORDERS W/O CC/MCC	0.7164	2.2	2.9	$4,298.40	0.8734	2.4	3.1	$5,240.40	($942.00)

*Payment is estimated using a base rate of $6,000

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
600	No	No	09	MED	NON-MALIGNANT BREAST DISORDERS W CC/MCC	0.9560	3.5	4.3	$5,736.00	0.9568	3.7	4.5	$5,740.80	($4.80)
601	No	No	09	MED	NON-MALIGNANT BREAST DISORDERS W/O CC/MCC	0.6192	2.7	3.0	$3,715.20	0.6292	2.6	3.1	$3,775.20	($60.00)
602	Yes	No	09	MED	CELLULITIS W MCC	1.4440	4.7	5.9	$8,664.00	1.4464	4.7	5.9	$8,678.40	($14.40)
603	Yes	No	09	MED	CELLULITIS W/O MCC	0.8477	3.3	3.9	$5,086.20	0.8503	3.3	4.0	$5,101.80	($15.60)
604	No	No	09	MED	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST W MCC	1.4168	3.9	5.0	$8,500.80	1.3915	3.8	5.0	$8,349.00	$151.80
605	No	No	09	MED	TRAUMA TO THE SKIN, SUBCUT TISS & BREAST W/O MCC	0.8605	2.7	3.3	$5,163.00	0.8459	2.7	3.3	$5,075.40	$87.60
606	No	No	09	MED	MINOR SKIN DISORDERS W MCC	1.3808	4.2	5.8	$8,284.80	1.3823	4.2	5.8	$8,293.80	($9.00)
607	No	No	09	MED	MINOR SKIN DISORDERS W/O MCC	0.8010	2.8	3.6	$4,806.00	0.7899	2.9	3.7	$4,739.40	$66.60
614	No	No	10	SURG	ADRENAL & PITUITARY PROCEDURES W CC/MCC	2.3636	3.5	4.8	$14,181.60	2.3490	3.7	5.0	$14,094.00	$87.60
615	No	No	10	SURG	ADRENAL & PITUITARY PROCEDURES W/O CC/MCC	1.4812	2.0	2.3	$8,887.20	1.4749	2.0	2.4	$8,849.40	$37.80
616	Yes	No	10	SURG	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W MCC	4.1352	10.1	12.7	$24,811.20	4.0430	10.3	12.6	$24,258.00	$553.20
617	Yes	No	10	SURG	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W CC	2.0736	5.9	7.0	$12,441.60	2.0980	6.1	7.3	$12,588.00	($146.40)
618	Yes	No	10	SURG	AMPUTAT OF LOWER LIMB FOR ENDOCRINE,NUTRIT,& METABOL DIS W/O CC/MCC	1.1593	3.5	4.3	$6,955.80	1.1785	4.0	4.7	$7,071.00	($115.20)
619	No	No	10	SURG	O.R. PROCEDURES FOR OBESITY W MCC	2.9207	3.0	4.7	$17,524.20	3.1169	3.5	5.6	$18,701.40	($1,177.20)
620	No	No	10	SURG	O.R. PROCEDURES FOR OBESITY W CC	1.8096	2.0	2.5	$10,857.60	1.8354	2.2	2.6	$11,012.40	($154.80)
621	No	No	10	SURG	O.R. PROCEDURES FOR OBESITY W/O CC/MCC	1.5783	1.5	1.7	$9,469.80	1.5826	1.6	1.8	$9,495.60	($25.80)
622	Yes	No	10	SURG	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W MCC	3.7980	8.7	12.0	$22,788.00	3.6115	8.4	11.2	$21,669.00	$1,119.00
623	Yes	No	10	SURG	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W CC	1.9232	5.5	6.6	$11,539.20	1.8970	5.5	6.7	$11,382.00	$157.20
624	Yes	No	10	SURG	SKIN GRAFTS & WOUND DEBRID FOR ENDOC, NUTRIT & METAB DIS W/O CC/MCC	1.2960	3.3	4.0	$7,776.00	1.1891	3.3	4.1	$7,134.60	$641.40
625	No	No	10	SURG	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W MCC	2.7833	4.8	7.0	$16,699.80	2.6883	4.8	7.2	$16,129.80	$570.00
626	No	No	10	SURG	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W CC	1.6106	2.5	3.6	$9,663.60	1.5182	2.3	3.2	$9,109.20	$554.40
627	No	No	10	SURG	THYROID, PARATHYROID & THYROGLOSSAL PROCEDURES W/O CC/MCC	1.0850	1.4	1.7	$6,510.00	1.0606	1.5	1.8	$6,363.60	$146.40
628	Yes	No	10	SURG	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W MCC	3.6750	7.3	10.0	$22,050.00	3.5763	7.0	10.1	$21,457.80	$592.20
629	Yes	No	10	SURG	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W CC	2.3387	6.0	7.2	$14,032.20	2.3157	6.1	7.2	$13,894.20	$138.00
630	Yes	No	10	SURG	OTHER ENDOCRINE, NUTRIT & METAB O.R. PROC W/O CC/MCC	1.5345	2.9	3.6	$9,207.00	1.5969	2.7	3.6	$9,581.40	($374.40)
637	Yes	No	10	MED	DIABETES W MCC	1.3813	3.9	5.1	$8,287.80	1.3347	3.8	5.0	$8,008.20	$279.60
638	Yes	No	10	MED	DIABETES W CC	0.8722	2.9	3.6	$5,233.20	0.8512	2.9	3.6	$5,107.20	$126.00

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
639	Yes	No	10	MED	DIABETES W/O CC/MCC	0.6319	2.1	2.6	$3,791.40	0.6257	2.2	2.6	$3,754.20	$37.20
640	Yes	No	10	MED	MISC DISORDERS OF NUTRITION, METABOLISM, FLUIDS/ELECTROLYTES W MCC	1.1902	3.3	4.5	$7,141.20	1.1724	3.3	4.5	$7,034.40	$106.80
641	Yes	No	10	MED	MISC DISORDERS OF NUTRITION, METABOLISM, FLUIDS/ELECTROLYTES W/O MCC	0.7519	2.6	3.3	$4,511.40	0.7461	2.6	3.3	$4,476.60	$34.80
642	No	No	10	MED	INBORN AND OTHER DISORDERS OF METABOLISM	1.2635	3.2	4.3	$7,581.00	1.2509	3.2	4.3	$7,505.40	$75.60
643	Yes	No	10	MED	ENDOCRINE DISORDERS W MCC	1.6341	5.0	6.3	$9,804.60	1.5914	5.1	6.5	$9,548.40	$256.20
644	Yes	No	10	MED	ENDOCRINE DISORDERS W CC	1.0125	3.5	4.3	$6,075.00	1.0023	3.6	4.4	$6,013.80	$61.20
645	Yes	No	10	MED	ENDOCRINE DISORDERS W/O CC/MCC	0.7429	2.7	3.2	$4,457.40	0.7388	2.7	3.3	$4,432.80	$24.60
652	No	No	11	SURG	KIDNEY TRANSPLANT	3.3146	5.3	6.1	$19,887.60	3.3197	5.5	6.4	$19,918.20	($30.60)
653	Yes	No	11	SURG	MAJOR BLADDER PROCEDURES W MCC	5.4890	10.5	13.5	$32,934.00	5.5300	10.9	14.1	$33,180.00	($246.00)
654	Yes	No	11	SURG	MAJOR BLADDER PROCEDURES W CC	2.8733	6.2	7.3	$17,239.80	2.7726	6.2	7.4	$16,635.60	$604.20
655	Yes	No	11	SURG	MAJOR BLADDER PROCEDURES W/O CC/MCC	2.0772	3.7	4.4	$12,463.20	2.0496	4.0	4.7	$12,297.60	$165.60
656	No	No	11	SURG	KIDNEY & URETER PROCEDURES FOR NEOPLASM W MCC	3.3276	6.0	7.9	$19,965.60	3.2546	6.0	7.8	$19,527.60	$438.00
657	No	No	11	SURG	KIDNEY & URETER PROCEDURES FOR NEOPLASM W CC	1.9474	3.6	4.3	$11,684.40	1.9781	3.8	4.5	$11,868.60	($184.20)
658	No	No	11	SURG	KIDNEY & URETER PROCEDURES FOR NEOPLASM W/O CC/MCC	1.5664	2.3	2.6	$9,398.40	1.5630	2.4	2.7	$9,378.00	$20.40
659	Yes	No	11	SURG	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W MCC	2.7271	6.1	8.2	$16,362.60	3.4129	6.7	9.4	$20,477.40	($4,114.80)
660	Yes	No	11	SURG	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W CC	1.4476	3.2	4.2	$8,685.60	1.7929	3.4	4.5	$10,757.40	($2,071.80)
661	Yes	No	11	SURG	KIDNEY & URETER PROCEDURES FOR NON-NEOPLASM W/O CC/MCC	1.0728	2.0	2.3	$6,436.80	1.4540	2.1	2.5	$8,724.00	($2,287.20)
662	No	No	11	SURG	MINOR BLADDER PROCEDURES W MCC	3.1787	7.3	10.3	$19,072.20	3.0456	7.7	10.4	$18,273.60	$798.60
663	No	No	11	SURG	MINOR BLADDER PROCEDURES W CC	1.6403	3.9	5.2	$9,841.80	1.7806	3.9	5.2	$10,683.60	($841.80)
664	No	No	11	SURG	MINOR BLADDER PROCEDURES W/O CC/MCC	1.1857	2.0	2.4	$7,114.20	1.2867	1.9	2.4	$7,720.20	($606.00)
665	No	No	11	SURG	PROSTATECTOMY W MCC	3.1788	8.2	10.5	$19,072.80	3.1233	8.2	10.6	$18,739.80	$333.00
666	No	No	11	SURG	PROSTATECTOMY W CC	1.7791	4.2	5.8	$10,674.60	1.7395	4.4	5.8	$10,437.00	$237.60
667	No	No	11	SURG	PROSTATECTOMY W/O CC/MCC	1.0804	2.2	2.8	$6,482.40	0.9911	2.2	2.7	$5,946.60	$535.80
668	No	No	11	SURG	TRANSURETHRAL PROCEDURES W MCC	2.8146	7.1	9.2	$16,887.60	2.6350	6.6	8.8	$15,810.00	$1,077.60
669	No	No	11	SURG	TRANSURETHRAL PROCEDURES W CC	1.5825	4.0	5.2	$9,495.00	1.3828	3.1	4.2	$8,296.80	$1,198.20
670	No	No	11	SURG	TRANSURETHRAL PROCEDURES W/O CC/MCC	0.9635	2.1	2.6	$5,781.00	0.9836	2.2	2.7	$5,901.60	($120.60)
671	No	No	11	SURG	URETHRAL PROCEDURES W CC/MCC	1.6835	3.9	5.3	$10,101.00	1.5344	3.8	5.0	$9,206.40	$894.60
672	No	No	11	SURG	URETHRAL PROCEDURES W/O CC/MCC	1.0569	1.9	2.3	$6,341.40	1.0226	1.9	2.4	$6,135.60	$205.80
673	No	No	11	SURG	OTHER KIDNEY & URINARY TRACT PROCEDURES W MCC	3.5773	7.9	10.9	$21,463.80	3.5242	7.7	10.7	$21,145.20	$318.60
674	No	No	11	SURG	OTHER KIDNEY & URINARY TRACT PROCEDURES W CC	2.3121	5.3	7.0	$13,872.60	2.3165	5.3	7.0	$13,899.00	($26.40)
675	No	No	11	SURG	OTHER KIDNEY & URINARY TRACT PROCEDURES W/O CC/MCC	1.6253	2.8	3.6	$9,751.80	1.6406	2.6	3.3	$9,843.60	($91.80)
682	Yes	No	11	MED	RENAL FAILURE W MCC	1.5320	4.5	5.9	$9,192.00	1.4843	4.3	5.8	$8,905.80	$286.20

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
683	Yes	No	11	MED	RENAL FAILURE W CC	0.9190	3.2	4.0	$5,514.00	0.9292	3.3	4.1	$5,575.20	($61.20)
684	Yes	No	11	MED	RENAL FAILURE W/O CC/MCC	0.6198	2.3	2.7	$3,718.80	0.6284	2.3	2.8	$3,770.40	($51.60)
686	No	No	11	MED	KIDNEY & URINARY TRACT NEOPLASMS W MCC	1.7176	5.1	6.8	$10,305.60	1.7275	5.1	6.7	$10,365.00	($59.40)
687	No	No	11	MED	KIDNEY & URINARY TRACT NEOPLASMS W CC	1.0537	3.3	4.3	$6,322.20	1.0986	3.5	4.5	$6,591.60	($269.40)
688	No	No	11	MED	KIDNEY & URINARY TRACT NEOPLASMS W/O CC/MCC	0.7909	2.0	2.4	$4,745.40	0.8512	2.0	2.4	$5,107.20	($361.80)
689	Yes	No	11	MED	KIDNEY & URINARY TRACT INFECTIONS W MCC	1.1116	3.9	4.8	$6,669.60	1.0793	3.9	4.8	$6,475.80	$193.80
690	Yes	No	11	MED	KIDNEY & URINARY TRACT INFECTIONS W/O MCC	0.7941	3.0	3.6	$4,764.60	0.7945	3.0	3.6	$4,767.00	($2.40)
691	No	No	11	MED	URINARY STONES W ESW LITHOTRIPSY W CC/MCC	1.6242	3.0	3.9	$9,745.20	1.5982	2.6	3.4	$9,589.20	$156.00
692	No	No	11	MED	URINARY STONES W ESW LITHOTRIPSY W/O CC/MCC	1.1306	2.0	2.4	$6,783.60	1.1899	1.9	2.3	$7,139.40	($355.80)
693	No	No	11	MED	URINARY STONES W/O ESW LITHOTRIPSY W MCC	1.3236	3.8	5.1	$7,941.60	1.4272	4.1	5.3	$8,563.20	($621.60)
694	No	No	11	MED	URINARY STONES W/O ESW LITHOTRIPSY W/O MCC	0.7021	2.1	2.6	$4,212.60	0.8142	2.1	2.7	$4,885.20	($672.60)
695	No	No	11	MED	KIDNEY & URINARY TRACT SIGNS & SYMPTOMS W MCC	1.1487	3.6	4.7	$6,892.20	1.1703	3.8	4.9	$7,021.80	($129.60)
696	No	No	11	MED	KIDNEY & URINARY TRACT SIGNS & SYMPTOMS W/O MCC	0.6886	2.4	3.0	$4,131.60	0.6962	2.5	3.1	$4,177.20	($45.60)
697	No	No	11	MED	URETHRAL STRICTURE	0.9600	2.5	3.6	$5,760.00	1.0295	2.9	3.7	$6,177.00	($417.00)
698	Yes	No	11	MED	OTHER KIDNEY & URINARY TRACT DIAGNOSES W MCC	1.6151	4.9	6.2	$9,690.60	1.5879	4.9	6.3	$9,527.40	$163.20
699	Yes	No	11	MED	OTHER KIDNEY & URINARY TRACT DIAGNOSES W CC	1.0279	3.4	4.2	$6,167.40	1.0465	3.5	4.3	$6,279.00	($111.60)
700	Yes	No	11	MED	OTHER KIDNEY & URINARY TRACT DIAGNOSES W/O CC/MCC	0.7597	2.5	3.1	$4,558.20	0.7765	2.6	3.2	$4,659.00	($100.80)
707	No	No	12	SURG	MAJOR MALE PELVIC PROCEDURES W CC/MCC	1.7914	2.3	3.2	$10,748.40	1.8021	2.4	3.3	$10,812.60	($64.20)
708	No	No	12	SURG	MAJOR MALE PELVIC PROCEDURES W/O CC/MCC	1.4065	1.3	1.4	$8,439.00	1.3846	1.3	1.5	$8,307.60	$131.40
709	No	No	12	SURG	PENIS PROCEDURES W CC/MCC	2.0318	3.6	5.8	$12,190.80	2.2849	4.2	6.6	$13,709.40	($1,518.60)
710	No	No	12	SURG	PENIS PROCEDURES W/O CC/MCC	1.6695	1.7	2.2	$10,017.00	1.5075	1.8	2.3	$9,045.00	$972.00
711	No	No	12	SURG	TESTES PROCEDURES W CC/MCC	2.0835	5.2	7.2	$12,501.00	2.0198	5.5	7.3	$12,118.80	$382.20
712	No	No	12	SURG	TESTES PROCEDURES W/O CC/MCC	1.0768	2.4	2.9	$6,460.80	0.9299	2.3	2.9	$5,579.40	$881.40
713	No	No	12	SURG	TRANSURETHRAL PROSTATECTOMY W CC/MCC	1.4634	2.9	4.2	$8,780.40	1.4241	2.9	4.2	$8,544.60	$235.80
714	No	No	12	SURG	TRANSURETHRAL PROSTATECTOMY W/O CC/MCC	0.9105	1.7	2.1	$5,463.00	0.8815	1.7	2.0	$5,289.00	$174.00
715	No	No	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY W CC/MCC	2.2099	5.4	7.6	$13,259.40	2.1754	4.9	7.1	$13,052.40	$207.00
716	No	No	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC FOR MALIGNANCY W/O CC/MCC	1.4630	1.5	1.8	$8,778.00	1.4265	1.5	1.8	$8,559.00	$219.00

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
717	No	No	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY W CC/MCC	1.9543	4.2	5.8	$11,725.80	1.9292	4.0	5.4	$11,575.20	$150.60
718	No	No	12	SURG	OTHER MALE REPRODUCTIVE SYSTEM O.R. PROC EXC MALIGNANCY W/O CC/MCC	1.2326	2.5	3.0	$7,395.60	1.2463	2.4	2.8	$7,477.80	($82.20)
722	No	No	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM W MCC	1.6597	5.1	7.0	$9,958.20	1.7366	5.1	6.9	$10,419.60	($461.40)
723	No	No	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM W CC	1.1015	3.5	4.5	$6,609.00	1.1220	3.6	4.6	$6,732.00	($123.00)
724	No	No	12	MED	MALIGNANCY, MALE REPRODUCTIVE SYSTEM W/O CC/MCC	0.6892	1.9	2.5	$4,135.20	0.7578	1.8	2.3	$4,546.80	($411.60)
725	No	No	12	MED	BENIGN PROSTATIC HYPERTROPHY W MCC	1.2143	4.0	5.1	$7,285.80	1.2737	4.2	5.6	$7,642.20	($356.40)
726	No	No	12	MED	BENIGN PROSTATIC HYPERTROPHY W/O MCC	0.7645	2.6	3.3	$4,587.00	0.7374	2.6	3.2	$4,424.40	$162.60
727	No	No	12	MED	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM W MCC	1.4380	4.7	6.0	$8,628.00	1.4500	4.7	6.0	$8,700.00	($72.00)
728	No	No	12	MED	INFLAMMATION OF THE MALE REPRODUCTIVE SYSTEM W/O MCC	0.7914	3.0	3.6	$4,748.40	0.8116	3.1	3.7	$4,869.60	($121.20)
729	No	No	12	MED	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES W CC/MCC	1.0820	3.3	4.5	$6,492.00	1.0556	3.3	4.3	$6,333.60	$158.40
730	No	No	12	MED	OTHER MALE REPRODUCTIVE SYSTEM DIAGNOSES W/O CC/MCC	0.5684	1.9	2.3	$3,410.40	0.6382	1.9	2.4	$3,829.20	($418.80)
734	No	No	13	SURG	PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY W CC/MCC	2.3059	3.7	5.2	$13,835.40	2.1754	3.8	5.3	$13,052.16	$783.24
735	No	No	13	SURG	PELVIC EVISCERATION, RAD HYSTERECTOMY & RAD VULVECTOMY W/O CC/MCC	1.3650	1.8	2.1	$8,190.00	1.3082	1.8	2.2	$7,849.20	$340.80
736	No	No	13	SURG	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W MCC	4.0306	8.9	11.6	$24,183.60	3.9277	9.2	11.4	$23,566.20	$617.40
737	No	No	13	SURG	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W CC	2.0314	4.6	5.4	$12,188.40	1.9597	4.8	5.6	$11,758.20	$430.20
738	No	No	13	SURG	UTERINE & ADNEXA PROC FOR OVARIAN OR ADNEXAL MALIGNANCY W/O CC/MCC	1.3923	2.8	3.1	$8,353.80	1.3936	2.8	3.2	$8,361.60	($7.80)
739	No	No	13	SURG	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W MCC	3.5977	6.6	9.4	$21,586.20	3.5413	6.8	9.4	$21,247.80	$338.40
740	No	No	13	SURG	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W CC	1.7429	3.0	4.0	$10,457.40	1.7214	3.1	4.0	$10,328.40	$129.00
741	No	No	13	SURG	UTERINE,ADNEXA PROC FOR NON-OVARIAN/ADNEXAL MALIG W/O CC/MCC	1.3278	1.7	2.0	$7,966.80	1.2644	1.8	2.1	$7,586.40	$380.40
742	No	No	13	SURG	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W CC/MCC	1.7140	3.0	3.9	$10,284.00	1.6389	3.1	4.0	$9,833.40	$450.60
743	No	No	13	SURG	UTERINE & ADNEXA PROC FOR NON-MALIGNANCY W/O CC/MCC	1.1156	1.8	2.0	$6,693.60	1.0745	1.8	2.0	$6,447.00	$246.60
744	No	No	13	SURG	D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION W CC/MCC	1.6903	4.1	5.6	$10,141.80	1.6994	4.3	5.7	$10,196.40	($54.60)

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
745	No	No	13	SURG	D&C, CONIZATION, LAPAROSCOPY & TUBAL INTERRUPTION W/O CC/MCC	1.0694	2.1	2.6	$6,416.40	1.0601	2.2	2.6	$6,360.60	$55.80
746	No	No	13	SURG	VAGINA, CERVIX & VULVA PROCEDURES W CC/MCC	1.6777	3.5	5.1	$10,066.20	1.6343	3.6	5.1	$9,805.80	$260.40
747	No	No	13	SURG	VAGINA, CERVIX & VULVA PROCEDURES W/O CC/MCC	0.9582	1.6	2.0	$5,749.20	0.9222	1.6	2.0	$5,533.20	$216.00
748	No	No	13	SURG	FEMALE REPRODUCTIVE SYSTEM RECONSTRUCTIVE PROCEDURES	1.2940	1.6	2.0	$7,764.00	1.2673	1.7	2.1	$7,603.80	$160.20
749	No	No	13	SURG	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES W CC/MCC	2.6020	5.7	7.8	$15,612.00	2.5771	5.9	7.7	$15,462.60	$149.40
750	No	No	13	SURG	OTHER FEMALE REPRODUCTIVE SYSTEM O.R. PROCEDURES W/O CC/MCC	1.2239	2.4	2.9	$7,343.40	1.2998	2.4	3.1	$7,798.80	($455.40)
754	No	No	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM W MCC	1.8414	5.2	7.1	$11,048.40	1.7905	5.1	7.0	$10,743.00	$305.40
755	No	No	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM W CC	1.0699	3.3	4.4	$6,419.40	1.0976	3.5	4.6	$6,585.60	($166.20)
756	No	No	13	MED	MALIGNANCY, FEMALE REPRODUCTIVE SYSTEM W/O CC/MCC	0.7801	2.2	2.6	$4,680.60	0.6351	2.0	2.4	$3,810.60	$870.00
757	No	No	13	MED	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM W MCC	1.4409	4.9	6.3	$8,645.40	1.4655	5.1	6.5	$8,793.00	($147.60)
758	No	No	13	MED	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM W CC	1.0204	3.7	4.6	$6,122.40	1.0031	3.9	4.8	$6,018.60	$103.80
759	No	No	13	MED	INFECTIONS, FEMALE REPRODUCTIVE SYSTEM W/O CC/MCC	0.7107	2.6	3.2	$4,264.20	0.7156	2.8	3.3	$4,293.60	($29.40)
760	No	No	13	MED	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS W CC/MCC	0.8717	2.6	3.3	$5,230.20	0.8586	2.7	3.4	$5,151.60	$78.60
761	No	No	13	MED	MENSTRUAL & OTHER FEMALE REPRODUCTIVE SYSTEM DISORDERS W/O CC/MCC	0.5494	1.8	2.1	$3,296.40	0.6425	1.9	2.4	$3,855.00	($558.60)
768	No	No	14	SURG	VAGINAL DELIVERY W O.R. PROC EXCEPT STERIL &/OR D&C	1.1314	2.7	4.2	$6,788.40	1.1337	3.4	3.8	$6,802.20	($13.80)
769	No	No	14	SURG	POSTPARTUM & POST ABORTION DIAGNOSES W O.R. PROCEDURE	1.4579	3.2	4.3	$8,747.40	1.7239	3.2	5.1	$10,343.40	($1,596.00)
770	No	No	14	SURG	ABORTION W D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY	1.0679	1.8	2.6	$6,407.40	0.7878	1.8	2.2	$4,726.80	$1,680.60
776	No	No	14	MED	POSTPARTUM & POST ABORTION DIAGNOSES W/O O.R. PROCEDURE	0.6590	2.5	3.1	$3,954.00	0.8073	2.5	3.3	$4,843.80	($889.80)
779	No	No	14	MED	ABORTION W/O D&C	0.7543	1.7	2.7	$4,525.80	0.6735	1.7	2.3	$4,041.00	$484.80
783	No	No	14	SURG	CESAREAN SECTION W STERILIZATION W MCC	1.7455	4.6	6.3	$10,473.00				—	—
784	No	No	14	SURG	CESAREAN SECTION W STERILIZATION W CC	1.1021	3.4	4.1	$6,612.60				—	—
785	No	No	14	SURG	CESAREAN SECTION W STERILIZATION W/O CC/MCC	0.8455	2.7	3.0	$5,073.00				—	—
786	No	No	14	SURG	CESAREAN SECTION W/O STERILIZATION W MCC	1.5548	4.4	5.9	$9,328.80				—	—
787	No	No	14	SURG	CESAREAN SECTION W/O STERILIZATION W CC	1.0811	3.5	4.2	$6,486.60				—	—
788	No	No	14	SURG	CESAREAN SECTION W/O STERILIZATION W/O CC/MCC	0.9007	3.0	3.2	$5,404.20				—	—

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
789	No	No	15	MED	NEONATES, DIED OR TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	1.6637	1.8	1.8	$9,982.20	1.6412	1.8	1.8	$9,847.20	$135.00
790	No	No	15	MED	EXTREME IMMATURITY OR RESPIRATORY DISTRESS SYNDROME, NEONATE	5.4863	17.9	17.9	$32,917.80	5.4121	17.9	17.9	$32,472.60	$445.20
791	No	No	15	MED	PREMATURITY W MAJOR PROBLEMS	3.7470	13.3	13.3	$22,482.00	3.6963	13.3	13.3	$22,177.80	$304.20
792	No	No	15	MED	PREMATURITY W/O MAJOR PROBLEMS	2.2608	8.6	8.6	$13,564.80	2.2302	8.6	8.6	$13,381.20	$183.60
793	No	No	15	MED	FULL TERM NEONATE W MAJOR PROBLEMS	3.8489	4.7	4.7	$23,093.40	3.7969	4.7	4.7	$22,781.40	$312.00
794	No	No	15	MED	NEONATE W OTHER SIGNIFICANT PROBLEMS	1.3623	3.4	3.4	$8,173.80	1.3439	3.4	3.4	$8,063.40	$110.40
795	No	No	15	MED	NORMAL NEWBORN	0.1844	3.1	3.1	$1,106.40	0.1819	3.1	3.1	$1,091.40	$15.00
796	No	No	14	SURG	VAGINAL DELIVERY W STERILIZATION/D&C W MCC	1.4682	3.4	5.0	$8,809.20				—	—
797	No	No	14	SURG	VAGINAL DELIVERY W STERILIZATION/D&C W CC	0.8469	2.2	2.4	$5,081.40				—	—
798	No	No	14	SURG	VAGINAL DELIVERY W STERILIZATION/D&C WO CC/MCC	0.8469	2.2	2.4	$5,081.40				—	—
799	No	No	16	SURG	SPLENECTOMY W MCC	4.7016	8.3	11.0	$28,209.60	4.8769	8.0	10.7	$29,261.40	($1,051.80)
800	No	No	16	SURG	SPLENECTOMY W CC	2.6268	4.7	6.1	$15,760.80	2.6869	5.1	6.5	$16,121.40	($360.60)
801	No	No	16	SURG	SPLENECTOMY W/O CC/MCC	1.5563	2.5	2.8	$9,337.80	1.7028	2.6	3.2	$10,216.80	($879.00)
802	No	No	16	SURG	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W MCC	3.3472	7.4	10.0	$20,083.20	3.2539	7.3	10.1	$19,523.40	$559.80
803	No	No	16	SURG	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W CC	1.7221	4.1	5.2	$10,332.60	1.8603	4.4	5.7	$11,161.80	($829.20)
804	No	No	16	SURG	OTHER O.R. PROC OF THE BLOOD & BLOOD FORMING ORGANS W/O CC/MCC	1.2305	2.1	2.6	$7,383.00	1.1986	2.3	2.9	$7,191.60	$191.40
805	No	No	14	MED	VAGINAL DELIVERY W/O STERILIZATION/D&C W MCC	1.0232	3.0	4.1	$6,139.20				—	—
806	No	No	14	MED	VAGINAL DELIVERY W/O STERILIZATION/D&C W CC	0.7074	2.4	2.7	$4,244.40				—	—
807	No	No	14	MED	VAGINAL DELIVERY W/O STERILIZATION/D&C W/O CC/MCC	0.6140	2.1	2.2	$3,684.00				—	—
808	No	No	16	MED	MAJOR HEMATOL/IMMUN DIAG EXC SICKLE CELL CRISIS & COAGUL W MCC	2.1492	5.5	7.5	$12,895.20	2.1286	5.6	7.5	$12,771.60	$123.60
809	No	No	16	MED	MAJOR HEMATOL/IMMUN DIAG EXC SICKLE CELL CRISIS & COAGUL W CC	1.2045	3.6	4.5	$7,227.00	1.1964	3.6	4.5	$7,178.40	$48.60
810	No	No	16	MED	MAJOR HEMATOL/IMMUN DIAG EXC SICKLE CELL CRISIS & COAGUL W/O CC/MCC	0.9220	2.6	3.2	$5,532.00	0.9406	2.8	3.4	$5,643.60	($111.60)
811	No	No	16	MED	RED BLOOD CELL DISORDERS W MCC	1.3560	3.7	4.9	$8,136.00	1.3376	3.7	4.9	$8,025.60	$110.40
812	No	No	16	MED	RED BLOOD CELL DISORDERS W/O MCC	0.8832	2.7	3.5	$5,299.20	0.8828	2.8	3.5	$5,296.80	$2.40
813	No	No	16	MED	COAGULATION DISORDERS	1.6115	3.7	4.9	$9,669.00	1.7310	3.6	4.9	$10,386.00	($717.00)
814	No	No	16	MED	RETICULOENDOTHELIAL & IMMUNITY DISORDERS W MCC	1.6630	4.5	6.3	$9,978.00	1.7550	4.8	6.5	$10,530.00	($552.00)
815	No	No	16	MED	RETICULOENDOTHELIAL & IMMUNITY DISORDERS W CC	0.9777	3.1	3.9	$5,866.20	1.0019	3.2	4.0	$6,011.40	($145.20)
816	No	No	16	MED	RETICULOENDOTHELIAL & IMMUNITY DISORDERS W/O CC/MCC	0.7216	2.2	2.7	$4,329.60	0.7021	2.4	2.9	$4,212.60	$117.00

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
817	No	No	14	SURG	OTHER ANTEPARTUM DIAGNOSES W O.R. PROCEDURE W MCC	2.5317	3.8	6.5	$15,190.20				–	–
818	No	No	14	SURG	OTHER ANTEPARTUM DIAGNOSES W O.R. PROCEDURE W CC	1.3585	2.8	4.1	$8,151.00				–	–
819	No	No	14	SURG	OTHER ANTEPARTUM DIAGNOSES W O.R. PROCEDURE W/O CC/MCC	0.8390	1.6	2.1	$5,034.00				–	–
820	No	No	17	SURG	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE W MCC	5.4437	10.9	15.2	$32,662.20	5.4176	11.2	15.3	$32,505.60	$156.60
821	No	No	17	SURG	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE W CC	2.3943	4.3	6.1	$14,365.80	2.3355	4.3	6.1	$14,013.00	$352.80
822	No	No	17	SURG	LYMPHOMA & LEUKEMIA W MAJOR O.R. PROCEDURE W/O CC/MCC	1.2098	1.9	2.4	$7,258.80	1.2401	2.0	2.5	$7,440.60	($181.80)
823	No	No	17	SURG	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER PROC W MCC	4.5246	10.4	13.8	$27,147.60	4.3126	10.5	13.6	$25,875.60	$1,272.00
824	No	No	17	SURG	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER PROC W CC	2.1944	5.3	7.1	$13,166.40	2.1851	5.3	7.1	$13,110.60	$55.80
825	No	No	17	SURG	LYMPHOMA & NON-ACUTE LEUKEMIA W OTHER PROC W/O CC/MCC	1.3590	2.5	3.5	$8,154.00	1.2860	2.5	3.4	$7,716.00	$438.00
826	No	No	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC W MCC	4.9479	9.9	12.7	$29,687.40	5.2149	10.7	14.2	$31,289.40	($1,602.00)
827	No	No	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC W CC	2.2517	4.7	6.1	$13,510.20	2.3681	5.0	6.4	$14,208.60	($698.40)
828	No	No	17	SURG	MYELOPROLIF DISORD OR POORLY DIFF NEOPL W MAJ O.R. PROC W/O CC/MCC	1.6354	3.0	3.7	$9,812.40	1.6206	3.1	3.9	$9,723.60	$88.80
829	No	No	17	SURG	MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASMS W OTHER PROCEDURE W CC/MCC	3.1097	6.4	9.6	$18,658.20	3.1308	6.3	9.5	$18,784.80	($126.60)
830	No	No	17	SURG	MYELOPROLIFERATIVE DISORDERS OR POORLY DIFFERENTIATED NEOPLASMS W OTHER PROCEDURE W/O CC/MCC	1.4188	2.6	3.2	$8,512.80	1.2790	2.4	3.1	$7,674.00	$838.80
831	No	No	14	MED	OTHER ANTEPARTUM DIAGNOSES W/O O.R. PROCEDURE W MCC	1.0281	3.2	4.5	$6,168.60				–	–
832	No	No	14	MED	OTHER ANTEPARTUM DIAGNOSES W/O O.R. PROCEDURE W CC	0.7188	2.5	3.6	$4,312.80				–	–
833	No	No	14	MED	OTHER ANTEPARTUM DIAGNOSES W/O O.R. PROCEDURE W/O CC/MCC	0.4803	1.9	2.5	$2,881.80				–	–
834	No	No	17	MED	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE W MCC	5.5078	10.0	16.5	$33,046.80	5.4939	10.0	16.8	$32,963.40	$83.40
835	No	No	17	MED	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE W CC	2.1360	4.5	7.1	$12,816.00	2.1139	4.4	7.0	$12,683.40	$132.60
836	No	No	17	MED	ACUTE LEUKEMIA W/O MAJOR O.R. PROCEDURE W/O CC/MCC	1.2126	2.6	3.9	$7,275.60	1.3767	3.0	4.8	$8,260.20	($984.60)
837	No	No	17	MED	CHEMO W ACUTE LEUKEMIA AS SDX OR W HIGH DOSE CHEMO AGENT W MCC	5.3741	12.8	18.3	$32,244.60	5.7037	13.9	19.3	$34,222.20	($1,977.60)

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	FY 2019								FY 2018					
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838	No	No	17	MED	CHEMO W ACUTE LEUKEMIA AS SDX W CC OR HIGH DOSE CHEMO AGENT	2.3526	5.8	7.8	$14,115.60	2.3520	6.1	8.2	$14,112.00	$3.60
839	No	No	17	MED	CHEMO W ACUTE LEUKEMIA AS SDX W/O CC/MCC	1.2559	4.5	4.9	$7,535.40	1.3326	4.7	5.3	$7,995.60	($460.20)
840	Yes	No	17	MED	LYMPHOMA & NON-ACUTE LEUKEMIA W MCC	3.2929	7.0	10.0	$19,757.40	3.0793	7.0	9.8	$18,475.80	$1,281.60
841	Yes	No	17	MED	LYMPHOMA & NON-ACUTE LEUKEMIA W CC	1.6348	4.2	5.7	$9,808.80	1.6206	4.3	5.7	$9,723.60	$85.20
842	Yes	No	17	MED	LYMPHOMA & NON-ACUTE LEUKEMIA W/O CC/MCC	1.1211	2.9	3.8	$6,726.60	1.1243	2.9	3.7	$6,745.80	($19.20)
843	No	No	17	MED	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG W MCC	1.8460	5.3	7.3	$11,076.00	1.7890	5.3	7.1	$10,734.00	$342.00
844	No	No	17	MED	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG W CC	1.1788	3.7	4.9	$7,072.80	1.2069	3.8	5.0	$7,241.40	($168.60)
845	No	No	17	MED	OTHER MYELOPROLIF DIS OR POORLY DIFF NEOPL DIAG W/O CC/MCC	0.8662	2.6	3.4	$5,197.20	0.9022	2.8	3.5	$5,413.20	($216.00)
846	No	No	17	MED	CHEMOTHERAPY W/O ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS W MCC	2.8179	6.2	8.7	$16,907.40	2.3804	5.8	7.8	$14,282.40	$2,625.00
847	No	No	17	MED	CHEMOTHERAPY W/O ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS W CC	1.3265	3.6	4.1	$7,959.00	1.2613	3.5	4.0	$7,567.80	$391.20
848	No	No	17	MED	CHEMOTHERAPY W/O ACUTE LEUKEMIA AS SECONDARY DIAGNOSIS W/O CC/MCC	0.9326	2.9	3.3	$5,595.60	0.9320	2.8	3.3	$5,592.00	$3.60
849	No	No	17	MED	RADIOTHERAPY	1.9702	5.0	7.0	$11,821.20	1.7999	4.8	6.3	$10,799.40	$1,021.80
853	Yes	No	18	SURG	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE W MCC	5.0571	9.9	12.8	$30,342.60	5.1279	10.3	13.3	$30,767.40	($424.80)
854	Yes	No	18	SURG	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE W CC	2.2028	5.7	7.1	$13,216.80	2.3912	6.3	7.7	$14,347.20	($1,130.40)
855	Yes	No	18	SURG	INFECTIOUS & PARASITIC DISEASES W O.R. PROCEDURE W/O CC/MCC	1.5600	3.6	4.5	$9,360.00	1.4400	3.4	4.2	$8,640.00	$720.00
856	Yes	No	18	SURG	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC W MCC	4.4883	8.9	12.0	$26,929.80	4.4513	9.3	12.3	$26,707.80	$222.00
857	Yes	No	18	SURG	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC W CC	2.0567	5.4	6.7	$12,340.20	1.9881	5.3	6.6	$11,928.60	$411.60
858	Yes	No	18	SURG	POSTOPERATIVE OR POST-TRAUMATIC INFECTIONS W O.R. PROC W/O CC/MCC	1.3801	3.7	4.5	$8,280.60	1.3488	3.7	4.5	$8,092.80	$187.80
862	Yes	No	18	MED	POSTOPERATIVE & POST-TRAUMATIC INFECTIONS W MCC	1.8277	5.0	6.6	$10,966.20	1.8327	5.1	6.7	$10,996.20	($30.00)
863	Yes	No	18	MED	POSTOPERATIVE & POST-TRAUMATIC INFECTIONS W/O MCC	0.9848	3.5	4.3	$5,908.80	1.0072	3.6	4.4	$6,043.20	($134.40)
864	No	No	18	MED	FEVER AND INFLAMMATORY CONDITIONS	0.8643	2.8	3.4	$5,185.80	0.8701	2.8	3.5	$5,220.60	($34.80)
865	No	No	18	MED	VIRAL ILLNESS W MCC	1.3822	3.9	5.3	$8,293.20	1.5014	4.1	5.6	$9,008.40	($715.20)
866	No	No	18	MED	VIRAL ILLNESS W/O MCC	0.8204	2.7	3.4	$4,922.40	0.8005	2.7	3.4	$4,803.00	$119.40
867	Yes	No	18	MED	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES W MCC	2.1329	5.6	7.6	$12,797.40	2.1174	5.6	7.6	$12,704.16	$93.24
868	Yes	No	18	MED	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES W CC	1.0769	3.6	4.6	$6,461.40	1.0596	3.8	4.7	$6,357.60	$103.80

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	FY 2019 Weight	FY 2019 Geometric Mean LOS	FY 2019 Arithmetic Mean LOS	FY 2019 Payment*	FY 2018 Weight	FY 2018 Geometric Mean LOS	FY 2018 Arithmetic Mean LOS	FY 2018 Payment*	Payment Change 2018-2019
869	Yes	No	18	MED	OTHER INFECTIOUS & PARASITIC DISEASES DIAGNOSES W/O CC/MCC	0.7679	2.7	3.3	$4,607.40	0.7886	2.9	3.5	$4,731.60	($124.20)
870	Yes	No	18	MED	SEPTICEMIA OR SEVERE SEPSIS W MV >96 HOURS OR PERIPHERAL EXTRACORPOREAL MEMBRANE OXYGENATION (ECMO)	6.2953	12.4	14.4	$37,771.80	6.0896	12.5	14.5	$36,537.60	$1,234.20
871	Yes	No	18	MED	SEPTICEMIA OR SEVERE SEPSIS W/O MV >96 HOURS W MCC	1.8564	4.8	6.3	$11,138.40	1.8229	4.9	6.4	$10,937.40	$201.00
872	Yes	No	18	MED	SEPTICEMIA OR SEVERE SEPSIS W/O MV >96 HOURS W/O MCC	1.0529	3.7	4.4	$6,317.40	1.0546	3.7	4.5	$6,327.60	($10.20)
876	No	No	19	SURG	O.R. PROCEDURE W PRINCIPAL DIAGNOSES OF MENTAL ILLNESS	3.3014	7.2	14.8	$19,808.40	3.5094	7.6	14.2	$21,056.40	($1,248.00)
880	No	No	19	MED	ACUTE ADJUSTMENT REACTION & PSYCHOSOCIAL DYSFUNCTION	0.8111	2.6	3.6	$4,866.60	0.8085	2.7	3.7	$4,851.00	$15.60
881	No	No	19	MED	DEPRESSIVE NEUROSES	0.7585	3.8	5.0	$4,551.00	0.7457	3.8	5.2	$4,474.20	$76.80
882	No	No	19	MED	NEUROSES EXCEPT DEPRESSIVE	0.7750	3.2	4.4	$4,650.00	0.7791	3.2	4.5	$4,674.60	($24.60)
883	No	No	19	MED	DISORDERS OF PERSONALITY & IMPULSE CONTROL	1.3199	4.8	8.0	$7,919.40	1.1768	4.8	7.8	$7,060.80	$858.60
884	Yes	No	19	MED	ORGANIC DISTURBANCES & INTELLECTUAL DISABILITY	1.3479	4.3	6.7	$8,087.40	1.2342	4.2	6.5	$7,405.20	$682.20
885	No	No	19	MED	PSYCHOSES	1.1961	5.8	8.2	$7,176.60	1.1735	5.8	8.2	$7,041.00	$135.60
886	No	No	19	MED	BEHAVIORAL & DEVELOPMENTAL DISORDERS	0.9887	3.7	6.3	$5,932.20	1.0675	3.8	6.9	$6,405.00	($472.80)
887	No	No	19	MED	OTHER MENTAL DISORDER DIAGNOSES	1.0645	3.0	4.7	$6,387.00	1.0740	3.1	4.6	$6,444.00	($57.00)
894	No	No	20	MED	ALCOHOL/DRUG ABUSE OR DEPENDENCE, LEFT AMA	0.5169	2.1	2.9	$3,101.40	0.5243	2.1	2.9	$3,145.80	($44.40)
895	No	No	20	MED	ALCOHOL/DRUG ABUSE OR DEPENDENCE W REHABILITATION THERAPY	1.4328	8.6	11.5	$8,596.80	1.3303	9.1	11.9	$7,981.80	$615.00
896	Yes	No	20	MED	ALCOHOL/DRUG ABUSE OR DEPENDENCE W/O REHABILITATION THERAPY W MCC	1.7468	4.9	6.9	$10,480.80	1.6357	4.8	6.7	$9,814.20	$666.60
897	Yes	No	20	MED	ALCOHOL/DRUG ABUSE OR DEPENDENCE W/O REHABILITATION THERAPY W/O MCC	0.8208	3.4	4.3	$4,924.80	0.7896	3.4	4.3	$4,737.60	$187.20
901	No	No	21	SURG	WOUND DEBRIDEMENTS FOR INJURIES W MCC	4.4649	9.2	13.7	$26,789.40	4.1541	9.0	13.1	$24,924.60	$1,864.80
902	No	No	21	SURG	WOUND DEBRIDEMENTS FOR INJURIES W CC	1.9204	4.9	6.6	$11,522.40	1.9980	5.1	6.8	$11,988.00	($465.60)
903	No	No	21	SURG	WOUND DEBRIDEMENTS FOR INJURIES W/O CC/MCC	1.1639	2.9	3.7	$6,983.40	1.2477	3.1	3.9	$7,486.20	($502.80)
904	No	No	21	SURG	SKIN GRAFTS FOR INJURIES W CC/MCC	3.2260	6.7	9.8	$19,356.00	3.2509	6.7	9.7	$19,505.40	($149.40)
905	No	No	21	SURG	SKIN GRAFTS FOR INJURIES W/O CC/MCC	1.7692	3.5	4.8	$10,615.20	1.4619	3.5	4.4	$8,771.40	$1,843.80
906	No	No	21	SURG	HAND PROCEDURES FOR INJURIES	1.8432	2.8	4.7	$11,059.20	1.7443	2.9	4.5	$10,465.80	$593.40
907	Yes	No	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES W MCC	4.2161	7.2	10.2	$25,296.60	4.1721	7.3	10.3	$25,032.60	$264.00
908	Yes	No	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES W CC	1.9928	4.0	5.2	$11,956.80	2.0254	4.0	5.2	$12,152.40	($195.60)
909	Yes	No	21	SURG	OTHER O.R. PROCEDURES FOR INJURIES W/O CC/MCC	1.3254	2.5	3.1	$7,952.40	1.4069	2.5	3.1	$8,441.40	($489.00)
913	No	No	21	MED	TRAUMATIC INJURY W MCC	1.4719	3.6	5.2	$8,831.40	1.3797	3.6	4.8	$8,278.20	$553.20

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS														
	FY 2019									FY 2018				
MS-DRG	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Payment Change 2018-2019
914	No	No	21	MED	TRAUMATIC INJURY W/O MCC	0.8378	2.5	3.2	$5,026.80	0.8302	2.5	3.2	$4,981.20	$45.60
915	No	No	21	MED	ALLERGIC REACTIONS W MCC	1.6769	3.7	4.9	$10,061.40	1.6178	3.7	4.9	$9,706.80	$354.60
916	No	No	21	MED	ALLERGIC REACTIONS W/O MCC	0.6353	1.8	2.2	$3,811.80	0.6002	1.8	2.1	$3,601.20	$210.60
917	Yes	No	21	MED	POISONING & TOXIC EFFECTS OF DRUGS W MCC	1.4737	3.5	4.8	$8,842.20	1.4020	3.5	4.8	$8,412.00	$430.20
918	Yes	No	21	MED	POISONING & TOXIC EFFECTS OF DRUGS W/O MCC	0.7787	2.3	3.1	$4,672.20	0.7502	2.3	3.0	$4,501.20	$171.00
919	No	No	21	MED	COMPLICATIONS OF TREATMENT W MCC	1.8243	4.3	6.0	$10,945.80	1.7507	4.3	6.0	$10,504.20	$441.60
920	No	No	21	MED	COMPLICATIONS OF TREATMENT W CC	1.0031	2.9	3.8	$6,018.60	0.9993	3.0	3.9	$5,995.80	$22.80
921	No	No	21	MED	COMPLICATIONS OF TREATMENT W/O CC/MCC	0.7066	2.2	2.7	$4,239.60	0.7093	2.2	2.8	$4,255.80	($16.20)
922	No	No	21	MED	OTHER INJURY, POISONING & TOXIC EFFECT DIAG W MCC	1.5584	3.8	5.6	$9,350.40	1.4820	4.0	5.4	$8,892.00	$458.40
923	No	No	21	MED	OTHER INJURY, POISONING & TOXIC EFFECT DIAG W/O MCC	0.8698	2.7	3.9	$5,218.80	0.8166	2.6	3.6	$4,899.60	$319.20
927	No	No	22	SURG	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W SKIN GRAFT	18.3845	22.2	29.0	$110,307.00	16.9378	23.7	30.0	$101,626.80	$8,680.20
928	No	No	22	SURG	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ W CC/MCC	5.8756	10.7	15.0	$35,253.60	5.7034	10.7	14.6	$34,220.40	$1,033.20
929	No	No	22	SURG	FULL THICKNESS BURN W SKIN GRAFT OR INHAL INJ W/O CC/MCC	2.9722	5.8	7.9	$17,833.20	2.6348	5.6	7.5	$15,808.80	$2,024.40
933	No	No	22	MED	EXTENSIVE BURNS OR FULL THICKNESS BURNS W MV >96 HRS W/O SKIN GRAFT	2.8603	2.6	4.5	$17,161.80	3.2557	2.8	5.9	$19,534.20	($2,372.40)
934	No	No	22	MED	FULL THICKNESS BURN W/O SKIN GRAFT OR INHAL INJ	1.8335	4.2	6.0	$11,001.00	1.7432	4.3	6.4	$10,459.20	$541.80
935	No	No	22	MED	NON-EXTENSIVE BURNS	1.8217	3.4	5.3	$10,930.20	1.6879	3.5	5.0	$10,127.40	$802.80
939	No	No	23	SURG	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES W MCC	3.2787	6.5	9.4	$19,672.20	3.4821	6.5	9.5	$20,892.60	($1,220.40)
940	No	No	23	SURG	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES W CC	2.1745	3.7	5.0	$13,047.00	2.3429	4.0	5.3	$14,057.40	($1,010.40)
941	No	No	23	SURG	O.R. PROC W DIAGNOSES OF OTHER CONTACT W HEALTH SERVICES W/O CC/MCC	1.8514	2.3	3.0	$11,108.40	1.8581	2.5	3.2	$11,148.60	($40.20)
945	Yes	No	23	MED	REHABILITATION W CC/MCC	1.3649	9.4	11.6	$8,189.40	1.2539	8.3	10.9	$7,523.40	$666.00
946	Yes	No	23	MED	REHABILITATION W/O CC/MCC	1.0427	7.1	7.9	$6,256.20	1.1299	6.4	7.3	$6,779.40	($523.20)
947	Yes	No	23	MED	SIGNS & SYMPTOMS W MCC	1.2056	3.5	4.8	$7,233.60	1.1739	3.5	4.8	$7,043.40	$190.20
948	Yes	No	23	MED	SIGNS & SYMPTOMS W/O MCC	0.7802	2.6	3.3	$4,681.20	0.7726	2.7	3.3	$4,635.60	$45.60
949	No	No	23	MED	AFTERCARE W CC/MCC	1.1462	4.5	6.4	$6,877.20	1.1656	4.4	6.1	$6,993.60	($116.40)
950	No	No	23	MED	AFTERCARE W/O CC/MCC	0.7449	3.4	4.8	$4,469.40	0.8044	3.4	4.8	$4,826.40	($357.00)
951	No	No	23	MED	OTHER FACTORS INFLUENCING HEALTH STATUS	0.7984	2.5	3.4	$4,790.40	0.7927	2.4	3.2	$4,756.20	$34.20
955	No	No	24	SURG	CRANIOTOMY FOR MULTIPLE SIGNIFICANT TRAUMA	6.0969	7.4	10.8	$36,581.40	6.0302	7.3	10.9	$36,181.20	$400.20
956	Yes	No	24	SURG	LIMB REATTACHMENT, HIP & FEMUR PROC FOR MULTIPLE SIGNIFICANT TRAUMA	3.7838	6.1	7.5	$22,702.80	3.9066	6.3	7.7	$23,439.60	($736.80)

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FY 2019 vs. FY 2018 MS-DRG WEIGHTS, MEAN LOS, ESTIMATED PAYMENTS

MS-DRG	FY 2019									FY 2018				Payment Change 2018-2019
	Post-Acute DRG	Special Pay DRG	MDC	TYPE	MS-DRG Title	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	Weight	Geometric Mean LOS	Arithmetic Mean LOS	Payment*	
957	No	No	24	SURG	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA W MCC	7.5985	9.7	13.6	$45,591.00	7.3033	9.7	13.8	$43,819.80	$1,771.20
958	No	No	24	SURG	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA W CC	4.1798	7.0	8.7	$25,078.80	4.2558	7.1	8.8	$25,534.80	($456.00)
959	No	No	24	SURG	OTHER O.R. PROCEDURES FOR MULTIPLE SIGNIFICANT TRAUMA W/O CC/MCC	2.4507	3.8	4.7	$14,704.20	2.6946	3.9	4.8	$16,167.60	($1,463.40)
963	No	No	24	MED	OTHER MULTIPLE SIGNIFICANT TRAUMA W MCC	2.7950	5.3	8.0	$16,770.00	2.6785	5.4	8.0	$16,071.00	$699.00
964	No	No	24	MED	OTHER MULTIPLE SIGNIFICANT TRAUMA W CC	1.4749	4.0	4.9	$8,849.40	1.4288	4.0	4.8	$8,572.80	$276.60
965	No	No	24	MED	OTHER MULTIPLE SIGNIFICANT TRAUMA W/O CC/MCC	0.9743	2.7	3.2	$5,845.80	0.9934	2.9	3.3	$5,960.40	($114.60)
969	No	No	25	SURG	HIV W EXTENSIVE O.R. PROCEDURE W MCC	5.5987	11.7	15.9	$33,592.20	5.4440	11.3	15.4	$32,664.00	$928.20
970	No	No	25	SURG	HIV W EXTENSIVE O.R. PROCEDURE W/O MCC	2.7877	6.5	8.7	$16,726.20	2.5694	4.4	7.1	$15,416.40	$1,309.80
974	No	No	25	MED	HIV W MAJOR RELATED CONDITION W MCC	2.7230	6.4	9.0	$16,338.00	2.7733	6.5	9.2	$16,639.80	($301.80)
975	No	No	25	MED	HIV W MAJOR RELATED CONDITION W CC	1.2899	4.1	5.3	$7,739.40	1.3595	4.4	5.8	$8,157.00	($417.60)
976	No	No	25	MED	HIV W MAJOR RELATED CONDITION W/O CC/MCC	0.9386	3.1	3.9	$5,631.60	0.9985	3.3	4.3	$5,991.00	($359.40)
977	No	No	25	MED	HIV W OR W/O OTHER RELATED CONDITION	1.1699	3.4	4.6	$7,019.40	1.2996	3.7	5.2	$7,797.60	($778.20)
981	Yes	No		SURG	EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W MCC	4.3705	8.4	11.4	$26,223.00	4.3098	8.5	11.5	$25,858.80	$364.20
982	Yes	No		SURG	EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W CC	2.4529	4.9	6.5	$14,717.40	2.4839	5.0	6.6	$14,903.40	($186.00)
983	Yes	No		SURG	EXTENSIVE O.R. PROCEDURE UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC	1.5691	2.5	3.3	$9,414.60	1.6456	2.5	3.5	$9,873.60	($459.00)
987	Yes	Yes		SURG	NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W MCC	3.3326	8.1	10.8	$19,995.60	3.2362	7.9	10.6	$19,417.20	$578.40
988	Yes	Yes		SURG	NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W CC	1.6931	4.4	5.9	$10,158.60	1.7104	4.4	5.9	$10,262.40	($103.80)
989	Yes	Yes		SURG	NON-EXTENSIVE O.R. PROC UNRELATED TO PRINCIPAL DIAGNOSIS W/O CC/MCC	1.0407	2.1	2.8	$6,244.20	1.1056	2.2	2.9	$6,633.60	($389.40)
998	No	No		**	PRINCIPAL DIAGNOSIS INVALID AS DISCHARGE DIAGNOSIS	.								
999	No	No		**	UNGROUPABLE	.								

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**MS-DRGs 998 and 999 contain cases that could not be assigned to valid DRGs.

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